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CLOTHING AND STYLE

For Dressmakers, Milliners, Buyers, Designers, Students of Clothing, and Stylers

BY

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NEW YORK CITY

D. C. HEATH AND COMPANY

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WITH GRATITUDE
THIS BOOK IS DEDICATED TO

DR. GUSTAVE STRAUBENMÜLLER

ASSOCIATE SUPERINTENDENT OF SCHOOLS
NEW YORK CITY

who has devoted his life to the development of teaching, in the public schools of our city, appreciation of the aesthetic and the beautiful. His scholarship, personality, enthusiasm, and sympathetic outlook have inspired his principals and teachers to adapt instruction to the emotions of the students, thus arousing in them fine feelings of the reality and romance in the subject matter. One of his many achievements was the conception and development of the

TEXTILE HIGH SCHOOL OF THE CITY OF NEW YORK

an institution devoted to the study of Textiles, the city's leading industry, in all its branches, but with especial emphasis upon the beautiful and the artistic.

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PREFACE

The book, CLOTHING AND STYLE, was written as a companion to the author's trade edition TEXTILES (a comprehensive treatise on the manufacture and finishing of all textiles and related fabrics) for the following reasons:

1. A recent change in attitude has taken place on the part of manufacturers and large distributors of fabrics and clothing, as well as designers of wearing apparel, as to the relation of the design, texture, color, composition of the fabric, et cetera, to a given type and design of the finished costume.

2. Prior to a year or two ago most manufacturers of fabrics and related costume materials considered design and texture almost wholly from the standpoint of the beauty of the fabric itself.

3. Today every successful fabric manufacturer thinks of design, texture, color, and composition wholly from the standpoint of their suitability for a given type and design of the finished costume.

4. Out of these changes has developed a demand for the stylist, one who knows definitely the relation of color, design, and texture, to the style value of fabrics and the finished costume. The dress of an individual must be considered from a unit point of view consisting of all parts of clothing from head to foot, including jewelry, footwear, hose, et cetera.

5. Educators and teachers of textile subjects and home economics dressmaking will naturally reflect the above changes of attitude in both the methods of teaching and in

the content of information in the subject of clothing and dressmaking. Hence, the importance of CLOTHING AND STYLE as a text book.

The author has received many valuable suggestions on the subject matter from his teachers. Miss Florence Guilfoy, Textile High School, made many of the drawings. Miss M. C. Smith, and Mrs. F. H. Consalus, head of the department of clothing at Wadleigh High School, New York City, read the complete manuscript and gave much valuable information.

The author will be glad to receive any constructive criticism.

W. H. D.

SUGGESTIONS TO TEACHERS

The subject of clothing and the proper method of wearing clothes — called style — are of vital importance to every one for the following reasons:

(1) Proper clothing or costume gives us a feeling of dignity and self-confidence; improper clothing gives us a feeling of depression that goes with a lack of confidence. We all have more or less the proper desire to conform to the standards of dress called fashion. But one should try to be becomingly and appropriately dressed as well as fashionably dressed.

(2) In addition, every one has an honorable ambition to make a pleasing impression. Such an impression is due in a large degree to the pleasing appearance which can be best developed through the proper use of clothes.

(3) From ten to twenty per cent of our income is spent on clothing. With a limited amount to be spent thus, — and clothing an important item in our success, — it follows that the question of clothes presents a serious problem. How to buy economically and conserve the clothing we purchase is one of the most important matters in our personal and financial success.

If these things are true, why is the subject of clothing and style difficult to teach, even when students realize its importance? Because the subject is based upon some of the principles of (*a*) efficient production, (*b*) efficient distribution, and (*c*) efficient consumption of clothing, which in turn depend upon certain principles of biology, physics, chemistry, art, sociology, psychology, economics, etc. These, like all technical principles, are uninteresting and abstract unless they are the outgrowth of experience. In other words, in order to make them interesting, there must be an apperceptive basis or a background of experience.

To illustrate: the principles of the various sciences, etc., that are used in the proper understanding of clothing are:

I. *Biology.* (*a*) How to develop the best growths of cotton, wool, silk, etc.; (*b*) why wool from the dead sheep's back is not so good as wool from a live sheep's back; (*c*) the destructiveness of moths and moulds, and how they may be prevented, etc.

II. *Physics.* Characteristics of the raw fibers made into cloth that is adapted to meet the needs of human life; the absorbing power of perspiration, elasticity of silk, luster, softness, strength, power to protect from cold, warmth, etc.

III. *Chemistry.* Characteristics of the raw materials that allow them to be bleached or washed; removal of soil and stains; laundry operations, etc.

IV. *Art.* The effect of lines on the figure, artistic points of the human anatomy, etc.

V. *Sociology.* Principles of human nature that explain the needs of clothing and changes of style. Political, social, and religious differences that influence clothing, etc.

VI. *Psychology.* Principles that explain the effect of line, color, dress, on the mind of the wearer and of the observer, etc.

VII. *Economics* (Science of business). Principles that explain the best ways of making, buying, and selling clothing.

It may be asked, What is the most interesting manner of presenting the subject of clothing to a class of beginners?

This question can be answered intelligently only by considering the various methods of presenting such a subject.

There are two methods: (1) study of abstract principles followed by observation, illustrations, experiences, and (2) thinking about the illustrations and experiences in such a way as to bring out the principles.

The first method may, for want of a better name, be called the logical method of presenting the subject. It begins with the individual principle and illustrates it. It may be used to some degree in colleges and higher grade technical schools where the students are a selected group with the ability to do abstract thinking and preparing to become experts, research workers, etc. But this method has no place in technical or vocational schools of secondary grade, where the students are beginners and many distinctly motor-minded, and where power of thinking in abstract terms is very limited.

The second method may be called the psychological arrangement,

because it starts with an experience or a situation familiar to the student, and not with an abstract principle. It is the most effective and the one recommended in teaching clothing and other technical subjects.

Since the psychological method is the best for beginners, the next question is, How shall we arrange the topics according to this method? By means of a trade analysis of the subject of clothing. That is, by making a careful study of all parts of clothing and noting the practices, principles, sciences, etc., involved in the manufacture, design, and use of wearing apparel. Then listing all these principles and arranging them in order. Then selecting experiences or observations or tasks, called projects, each one involving as far as possible an actual trade or clothing practice.

These projects, "jobs," or plates are to be arranged in definite progressive teaching order, so that each is an outgrowth of the previous one. If any project or plate is too difficult for a student to perform, then simpler projects or jobs must be substituted, so that the student may be able to accomplish each project with a degree of success in order to inspire confidence in himself and develop his reasoning powers. Such a list of projects, jobs, or plates for a course in trade is spoken of as Trade or Occupational Analysis.

Each project or job must be carefully analyzed to determine the principles of (1) manipulative skill, (2) art, (3) mathematics, (4) chemistry, (5) physics, (6) biology, (7) economics, (8) history, (9) psychology involved.

With the introduction of these projects, etc., we are able to join the practical knowledge with the technical knowledge and thereby provide the training for intelligent use of the manipulative skill.

To show the importance of related technical knowledge, let us consider the project of making a costume. Let us consider first the raw materials of the costume — raw cloth. Of what is the cloth composed? — Fibers, or short lengths of fibrous material from the seeds of plants (cotton), stems of plants (flax, hemp, jute), fibers and soft hairs from the coverings of caterpillars (silk), backs of sheep, goats and camels. These fibers differ in quality, growth, softness, warmth, curling, felting, etc. — properties which can be explained only in the terms of the science of living forms — biology and physics.

These fibers are drawn out and twisted into yarn, and then woven

into cloth of different kinds. They are then dyed or colored to appear more beautiful. The principles of the drawing, twisting into yarn and weaving into cloth, etc., strength, elasticity, applying luster, coloring, and processing can be explained and understood only by aid of a knowledge of physics.

The action of stains and laundry processes depend upon the principles of the chemistry of the fiber and the structure of the cloth.

The lines, color, and luster of the costume influence to a marked degree its attractiveness on the wearer, and this influence can be explained only in terms of psychology.

The principles of the design of the fabric and costume, called art, explain why fabrics and costumes appear beautiful to us.

The history of clothing and fabrics shows that the style of fabrics and clothing has been influenced by historical events (such as the French Revolution) both political and social, by various monarchs, etc., and by the religious beliefs of races of peoples.

Since everyone desires to obtain the most out of clothing and to receive the maximum value for each dollar spent, the influences that determine the manufacture, cheapness, and utility of fabrics and costumes are of great interest to all. These can be explained only through the principles of economics.

Mathematical principles are utilized in the drafting and grading of patterns, straight and curved lines, etc., in addition to calculating costs, shrinkage, etc.

We might say that a course in clothing embodies really the principles of art, chemistry, physics, biology, economics, history, psychology, and mathematics underlying the manufacture, design, and fabrics of costumes, and is really the related technical knowledge of the practice of making clothing. Therefore, a study of clothing provides for not only technical intelligence, but also, as a by-product, general education — some principles of art, physics, economics, psychology, etc.

To illustrate let us consider the project of making a fall suit for a stout blond girl, seventeen years old, who works in an office and earns fifteen dollars a week.

The project analysis to be arranged as follows:

Project	*Manipulative Skill*	*Art*	*Math.*	*Chem.*	*Physics*	*Biol.*	*Eco.*	*Hist.*	*Psychol.*	*Textiles*
Fall business suit for girl	Drafting Grading etc.	Elongating lines to slenderize the figure Color	Calculating cost within reach of person	Whether easily cleaned	Color Why? Grows shiny or spots in rain or fades in sunlight Method of cleaning at home, etc.	Moths; silk lining and its source	Most economical for this type of girl; last 2 or 3 seasons also may be worn for various occasions	Style of trimming; cuts, etc.	Effect of suit on girl and other kind of wrong apparel to watch	Difference between woolens and worsteds

The ideal way of considering and studying the related technical knowledge is to provide this instruction parallel to the practical work, so that in addition to the personal habits — neatness of dress, etc., — or more general habits — working neatly, planning and executing the work systematically — there will be developed a thoughtful way of doing the practical task. That is, there will be a reason in the student's mind for each operation.

The subject of each lesson may be imparted either by the lecture or development method.

The lecture method may consist of reading or dictating notes, or presenting the subject in an oral manner. While it is possible by this method to impart information quickly, it is effective only if the students have a background of experience that will serve as a foundation for the information of the lecture, that is, an apperceptive basis. It may be used with some degree of success in colleges where students are mature and are able to think and discuss subjects in the abstract. It may also be used to some extent in evening classes of those already engaged in the trades, but as a rule the lecture method is not effective to a class of beginners. Dictating notes is a waste of time — it is far more economical to give out printed or mimeographed paper.

A better and more effective method of presenting a subject to beginners is to begin with the experience of the students, and, by means of questions, bring out information pertaining to the subject based upon

past experiences by well-directed questions and objective teaching. That is, the teacher begins by showing the importance of the subject (to gain interest), then by well-directed questions brings out the students' experiences. The answers are arranged, supplemented, and summarized, and then applied to the new situation. This method is called the development method, and while it is slower than the lecture method, it is far more effective with the average beginner.

Technical information, regardless of its value, is uninteresting and difficult to understand by the beginner. Therefore, it should be imparted in a form that will hold interest and that can be easily assimilated. This means that the principles will not be taught completely as outlined in the unit system of instruction, but in fragments, as required in the spiral system of teaching. To illustrate: In teaching the subject of the structure of fabrics it would be far more effective to teach simple notions of woven, knitted and felted fabrics (spiral arrangement), before teaching the complete types of weaves, simple and complex (unit arrangement).

The subject of clothing may be taught in an (*a*) organized or (*b*) unorganized manner. If the syllabus or course of study sets aside a definite time or period of day for the study of clothing, then the subject is spoken of as an organized course. Such a course allows for complete study and drill work. On the other hand, the course of study may allow for sewing and dressmaking and the related technical knowledge. In that case it must be presented in an incidental way as the occasion demands. For example, if the sewing or dressmaking course calls for a definite number of projects, then the related knowledge of clothing may be taught after or with each project. To illustrate: make a list of projects arranged in progressive order for teaching as shown on page xi and present the related technical knowledge of clothing as the student is working or has completed the project.

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CHAPTER I

SOCIAL VALUE OF CLOTHING

Clothing. When we use the terms " clothing " and " wearing apparel " we mean the entire covering of the body. That is, clothing includes the head covering (hat), body covering, hand covering (gloves), foot covering (shoes), etc.

Dress means the adjustment or arrangement of clothing in an orderly and artistic manner. Clothing may be used to cover the body and for the sake of modesty and still fail to be arranged artistically. So we may say that clothing, in order to give the highest service, should be arranged as dress. Disraeli, the English statesman, said that dress does not make a man, but it often makes a successful one, showing that the artistic arrangement of clothing gives one a degree of confidence that contributes more or less to success. *Style* consists of changes in dress due to human desires. This subject will be discussed in Chapter IV.

Importance of Clothing. The subject of clothing and style is an important feature in the life of everyone. We all live in communities, large or small, having a spirit of friendship and coöperation. These communities are called society, and the needs of the members are called social wants. Since everyone uses clothing, the problem of supply is one of the great industries of human society, and therefore a social industry. The desire of everyone is to appear to advantage and make a good impression on others. This gives clothing and style distinct social value or importance.

Individual Responsibility. Everyone has two responsibilities: responsibility to himself and to the community in which he lives. The responsibilities in regard to clothing are various and important. For example, our individual responsibility requires us (1) to be as attractive and well-groomed as possible in order to appear to advantage and to win the respect of those with whom we live, (2) to form habits of efficiency in the selection and wearing of clothing, (3) to cultivate an appreciation of dress which will contribute to our enjoyment of well-dressed people, well-costumed plays, etc., and (4) to develop the ability to plan and construct our clothing artistically and economically.

Neatness and Order. Habits of neatness and order in the matter of clothes will contribute to making life simple and pleasant. Compare the conditions of different wardrobes, bureaus, and dressers of different people. Note the orderliness of some and the chaotic condition of others. The person whose wardrobe is not neatly arranged finds it difficult to select at a glance what is appropriate for the day, and often selects at random and feels uncomfortable during the day, because she has not chosen the proper wearing apparel, when in fact she possesses the proper clothes but failed to find them readily or neglected to keep them in condition for wearing.

It is a well-known fact that one person will often obtain twice as much wear as another from the same kind of costume or garment by (*a*) hanging the article on hangers or folding it and (*b*) wearing protective coverings when practical, such as apron, scarf, collar, cuffs, etc.

Responsibility to the Community. The responsibility one owes to the community in regard to wearing apparel involves: (1) interest in community needs, such as the clothing necessary for charitable institutions, hospitals, the poor, Red Cross activities, etc., (2) relation of consumer and producer, (3) conditions and efficiency of manufacturing plants, (4) types of workers, conditions, and efficiency, (5) trade organizations and unions, (6) the place of textile industry in the business world.

When one considers the fact that everyone uses clothing and that several million people are, in addition, engaged in the manufacturing, buying, and selling of clothing, it is not surprising to find that the clothing of the human race is second among the great industries and necessities of human life.

Aim of Business. Originally each family made all the clothing for its particular needs. The implements were crude; the operators were slow. Only the nobility and the wealthy could secure the full amount of clothing. The poorer classes did not have sufficient to meet their needs even when clothing was handed down from one generation to another. Later, groups of people became highly trained in the manufacturing and selling of clothing, and devoted their whole time to this activity, which was called *business*. Thus we had people engaged full time in manufacturing cloth or costumes; others in buying clothing in large quantities and selling it in smaller quantities, etc. All of these people undertook business to render service to the community in order to "make money," or *profit*. Some business men, of course, gave better service and thus made more profit than others. Business men are interested in producing goods — *i.e.* clothing or services — which have *value*, that is, which meet a definite demand.

Production and Demand. When we purchase clothing or anything else we create a *demand* for that article. Even if the clothing or article is not worth while, we have created a demand for it. On the other hand, if we simply examine the article and pass it over without a purchase, the salespeople know that we are not interested. If many people did the same thing, the article of clothing would soon be removed and orders given to purchase no more because of lack of demand. The consumer can, therefore, actually dominate, if he wishes, the kind of clothing offered for sale. This indicates that consumers should be trained to appreciate good quality in articles of clothing, and thus be in a position to dictate not only the style but the quality of wearing apparel.

The mill that manufactures the cloth or the factory that manufactures the wearing apparel is called the *producer*, and the process is called *production*. The cloth is purchased in large quantities from the mill by selling agents, wholesalers, and sometimes retailers, from whom you purchase the cloth by the yard. The dry goods or cloak store buys a large number of costumes or suits from the manufacturer, and then you buy a single suit from the dry goods or cloak store, which is called one of the *distributors* of costumes. These processes or operations of transferring the article from the manufacturer to the one who buys it may be considered for brevity as *distribution*. The one who purchases the suit is called a *consumer*. The process of using, or (one might say) " robbing " the article of its usefulness, is called *consumption*.

Dignity of the Worker. The manufacture of clothing involves a tremendous amount of work and detail, and demands high standards of coöperation between the designers, manufacturers, and consumers, as well as high standards of production. The people employed are in a very important and artistic industry. They should work under proper hygienic conditions and receive a compensation that will afford more than a living wage, which will stimulate them to do their best work, and attract a highly skilled class to the industry. A fair wage means an annual wage sufficient for the worker to live, bring up a family economically, and have a thrift account. The legislatures of many states, like Massachusetts, have appointed a commission with power to establish a minimum wage for each class of workers. The consumer pays for the cost of manufacturing plus the cost of selling and a fair profit.

Buyer and Seller. For centuries there has been antagonism between the business man who sells cloth or clothing and the *consumer* who purchases the fabric or the wearing apparel. This is due to the narrow point of view of both. The business man wants a high price while the consumer wishes to purchase at a low price. That is, the business man would like to have the production or output of clothing restricted so that the price would be increased,

while the consumer would like the production or output increased so that there would be an excess and he would secure the article at a lower price. A broader and bigger conception of the relation between the buyer and seller should prevail. The business man must realize that he is not in business merely to earn a living for himself and his family — to make profits — but to satisfy human wants. He should realize that a larger volume of business will allow him to sell at a minimum price and that he will receive higher net returns than he did on the former scale. On the other hand, the consumer must realize that a business man is entitled to a fair profit — one which allows him to secure a living for himself and his family in a station of life that will make them contented; a profit above his wages of management, which will enable him to maintain his standard of living. If he is obliged to sell clothing at a loss then he must make up the difference in other merchandise or he will be discouraged and go into some other business. This condition applies especially to the clothing trades, where the risks are very great, due to the frequent changes of style.

Relations of Labor and Capital. *Labor* includes all forms of human effort directed toward producing or distributing the goods required by society. *Wages* is the amount paid for labor, as $8 per day. *Salary* is a form of wages and consists of a definite amount, as $50 per week, regardless of holidays, etc. Wages and salaries range from those paid the most unskilled workers to those of the highest directors of industry or business.

Wages of workers were originally set by the manufacturer, who paid as little as possible. As time went on the workers organized into unions, and a representative of the union met the manufacturers and agreed on a wage. This method of adjustment is called *collective bargaining*. If they were unable to agree, a strike was called and the workmen refused to go to work.

Sometimes the question of wages is left to arbitration by a committee composed of a representative from the union, one from the manufacturers, and a third party agreed upon.

Differences between the manufacturers and employees, particularly of the manufacturers of costumes, frequently arise which cause a "shut-down" of the plants for weeks. Of course these frequent shut-downs add to the cost of manufacturing because the

cost of the overhead remains the same as when the plant is busy. This added expense, of course, eventually is passed on to the consumer.

Despite the labor upheavals in the trade, which receive so much publicity from time to time, a more comprehensive and better understanding exists between workers and employers than formerly. This sometimes takes the form of profit-sharing for workers, the fundamentals of which have already been applied to other industries. A certain percentage of the profits is turned over to meritorious workers. Half of this amount is given in cash and the other half in stock, so that the recipients become participants in the business.

The workers are rated with merits and demerits as their performance warrants, much in the same way that the merit card system is applied in schools. If at the end of the year one employee receives more than another, he knows why. All in all, the scheme puts the employees on their mettle. They take more interest in the business because they know it will benefit them as well as their employers.

Consumer's Protection. In order to protect the consumer in the purchase of clothing, various attempts have been made to have laws passed compelling all manufacturers to label fabrics or clothing with information regarding the composition of the fabric, costume, etc., in a manner similar to the labelling of the composition of food products. Thus far no success has been attained in this direction, although all consumers should support such a measure.

Consumers in some parts of the country have organized an association called the Consumers' League, which publishes a list of firms with the names of fabrics and costumes that measure up to standards of durability, etc., and also either approves or disapproves of the wages and working conditions under which the articles are manufactured.

Well-established firms or mills that manufacture fabrics and wearing apparel have recognized the value of establishing standards for their product and have named the fabrics or wearing apparel by a special term called a *trade name*. These trade names

may be registered with the United States government, and no one except the firm registering it is allowed to use the trade name for a product.

Thus in the purchase of wearing apparel the consumer is protected by the Consumers' League, by trade names, and by the good name of a well-established firm.

Clothing Establishments. In order to turn out the greatest amount of wearing apparel, the clothing industry is highly organized and standardized, so that each worker is a specialist in one phase of production. The organization of the industry requires: (*a*) owners or proprietors, (*b*) general manager of the whole plant, (*c*) designers and stylers, (*d*) superintendent and assistant superintendents of each department or room, (*e*) examiners and shrinkers of fabrics, (*f*) cutters, (*g*) operators of machines, (*h*) inspectors, etc. Each one is trained in one phase of the work, so that he becomes skillful in that branch. Some specialize on high-grade and others on low-grade clothing.

Factory Inspection. Within the last generation a tremendous change has taken place in the manufacturing of clothing. Originally clothing was made on a large scale in congested old buildings and tenements, called "sweat shops," where the workers toiled long hours, sometimes under unsanitary conditions. Part of the manufacturing was sent out to poor families who did a great deal of the stitching. But today things have changed. Special buildings for the manufacturing of clothing have been erected, with up-to-date, well-lighted work rooms, with all sanitary conveniences, and automatic machinery, so that we may say that manufactured clothing today is made under the best possible conditions.

To illustrate: In the cloak factories the fabrics are received and every piece of cloth is thoroughly examined by experts in regard to measure, texture, and color, and then it is sponged by special machinery. All "smooth" cloths and those with finished faces are sponged by copper rollers, and the machinery is so arranged that from the time the cloth starts until it is folded dry, it is

not touched by the operator. The cloth is then ready for the cutters, with all its imperfections marked. Each cutter has a separate check upon which have been entered the particulars about the cloth, style, and proper patterns. If the quantity is large enough for the cutting machine, the cloth is marked and laid in folds, but small pieces are cut by hand with shears. After the cloth has been cut according to the provided patterns, the bundles are carefully compared with the orders, and then a ticket is made for each garment, on which is a place for each worker to put his or her number, so that a complete record is kept of every hand that works on the garment. The garments then go to the seamers, who seam them on machines specially adjusted for that particular work, being provided with a fixed gauge that insures a perfectly uniform seam. Expert seamers can work at machines that make 3000 stitches a minute. For the detection of any possible mistakes and imperfections in the fit, the garments are tried on models before being sent to the trimmers. The collars, cuffs, facings, etc., of each garment are cut according to the style designed, and, with the "body," sent to a workman who particularly excels in that branch of the work. After leaving the finisher the garment is inspected again by the foreman, and if it is not satisfactory, it goes back to the workman for alterations. After the making of buttonholes and the sewing on of buttons and ornaments, the garment goes to the presser, and from the presser, it passes to a final examiner and model, who are responsible for the fit and workmanship, and who see that the materials and trimmings are right, and that any changes that may have been ordered to suit certain customers have been properly made. Then the garment is ready for packing and shipping.

Records of the shape, cloth, trimmings, and buttons, or any other parts of the garment, are kept in duplicate, so that a copy of any garment can be made at any time. Sometimes cloaks that are in fashion in the East for a year do not reach the far West until weeks afterward, when some particular style may be favored more than another, and the orders will be larger for that style than for any other. By turning to the records, exact duplicates of any style can be made at any time, provided the material is in the market. One of the most responsible positions in a cloak factory

is that of the model or " figure," and upon securing good ones depends the prosperity of the establishment.

Textile Industries. A knowledge of the history and development of the textile industry makes possible a better understanding of the phase of production and marketing. Few people realize the magnitude and importance of the industries for manufacturing wearing apparel. Since cloth is the principal item in clothing, it may be well to consider this one item alone — number of people employed, etc. The textile industry alone gives employment to over a million people, paying them more than five hundred million dollars annually in wages and salaries; producing nearly one and three-quarters billion dollars in gross value, and giving a livelihood to at least three millions of our population.

Periods of Textile Manufacture. During the history of mankind, the manufacture of material into cloth has passed through four periods: first, the family system; second, the guild system; third, the domestic system; and fourth, the factory system.

The Family System. Under the family system the work of spinning and weaving was carried on by members of the household for the purpose of supplying the family with clothing. There were no sales of the product. Each class in society, from the peasant class to that of the nobleman, had its own devices for making clothing. This was the system that existed up to about the tenth century.

The Guild System. As communities became larger and cities sprang up, the textile industry became more than a family concern. There was a demand for better fabrics, and to meet this demand it became necessary to have a large supply of different parts of looms. The small weaver who owned and constructed his own loom was not able to have all these parts, so he began to work for a more prosperous weaver. The same conditions applied to spinning, which in time came to be carried on by a class distinct from the weavers. As a result the small weaver was driven out by the growth of organized capital, and a more perfect organization, called the guild system, arose. By this system, the textile industry was carried on by a small group of men called masters, employing two, three, or more men (distinguished later as journeymen and apprentices). The masters organized associations called *guilds*

and dominated all the conditions of the manufacture to a far greater extent than is possible under present conditions.

The family system existed in the American colonies at the beginning of the settlement, and for many years after. The guild system was not adopted in America because it was going out of existence on the Continent.

The Domestic Period. By the middle of the 18th century the textile industry began to break away from the guilds and spread from cities to the rural districts. The work was still carried on in the master's house, although he had lost the economic independence that he had under the old guild system, where he acted both as merchant and manufacturer. He now received his raw material from the merchant and disposed of the finished goods to a middleman, who looked after the demands of the market.

The Factory System. The domestic period was in turn followed by the factory system. A factory is a place where goods are produced by power for commercial use. The factory system first came into prominence after the invention of the steam engine. No record has been found showing its existence prior to this invention. English weavers and spinners became highly skilled and invented different machanical aids for the production of yarn and cloth. These mechanical aids enabled one man to do twenty men's work, and further utilization was made of water and steam power in place of manual labor. Then began the organization of the industry on a truly gigantic scale, combining capital and machinery and resulting in what is known as the factory system.

As a result, fabrics and costumes are made very quickly, and men and women have the opportunity of selecting the fabric and costume that meets their wishes. Up to 1870, women's clothing was made by dressmakers and men's clothing by tailors. After 1870, factories for the manufacture of costumes began to develop.

Organization of a Textile Mill or Factory. The factory was organized so that the processes of manufacturing were arranged systematically and labor minimized in passing from one process to another. A large amount of money or capital was necessary, and this was raised by issuing stock; usually each share was worth $100. If a mill or factory cost $1,000,000 then 10,000 shares of stock would be issued. Each one who owned stock became a

stockholder. The stockholders held an annual election and chose a group of men, called president, treasurer, and board of directors, to conduct the mill or factory. The treasurer was the executive head of the factory or mill, and had the responsibility of buying the raw material and disposing of the finished product. The president was chairman of the board of directors. The stockholders received a dividend, usually six per cent, although it might be more or less, on the money invested. The mill or factory was separated into subdivisions, such as carding, spinning, warp dressing, weaving, and sometimes dyeing and finishing. Each subdivision was in charge of an overseer. A superintendent supervised all the overseers, and had charge of the employees and their operators. A master mechanic had charge of the buildings and machinery. Both the superintendent and master mechanic were responsible to either a resident agent or a resident treasurer. The mill or factory in some cases became large, employing from 500 to 18,000 operatives, and specialized on a certain grade of cloth. As a result of this specialization and organization, the cost of manufacturing textiles was reduced to a minimum.

Comparison between Foreign and Domestic Organizations. Textile mills or factories in Europe are not organized on such a large scale. Each subdivision of the above constitutes a mill, such as a spinning, weaving, or finishing mill. There are certain advantages and disadvantages in American and European organizations. For example, while the cost of production in a large American mill is small, the mill is so large that it must have large orders, such as 50,000 or 100,000 yards, etc. There are times when hand to mouth buying takes place, which means that small orders are frequently given every month. A small mill can execute small orders more economically than a large mill. On the other hand, the cost of production is usually greater in a small mill than in a large one.

Of course, we must bear in mind that production or manufacture on a large scale means standardization or a uniform product. Most textiles and clothing in this country can be standardized and made on a factory basis. In Europe, there is a tendency for each country to have its own standards, hence it is not possible to standardize to the same extent as in this country. Even in America there are certain qualities of high-grade fabrics and costumes that must be manufactured on a small scale.

To illustrate: Tailor-made clothing, made according to individual measurement, is made in a small shop, while the ready-made clothing, made from a few measurements, is standardized and is made in a factory. In the custom-made suit, every suit is different, while in the ready-made suit there is standardization for a certain group or class. The same condition applies to high-grade fabrics, where the quantity of each pattern is limited by the trade. That is, articles of clothing wanted by a few people must be made by small-scale methods. Articles of clothing wanted by many people must be standardized before they can be made with profit on a large scale.

Factory Organization on a Large Scale. Organization means coöperation or team work on the part of everyone from the unskilled worker to the president. Due to specialization, the production per operator or machine is very large. Good transportation is necessary for a factory organization because it opens the extensive markets needed in order to dispose of the great quantity of product made on a factory basis.

Capital for a Factory. In order to do or establish business, let us say the raw cloth or clothing business, it is necessary to have a factory — the whole or a part of a building which will be suitably located. In addition, we must have machinery, furniture, display rooms with fixtures, as well as raw stock or cloth for the manufacture of clothing. All the items are essential in order to manufacture clothing on a large scale and are classified under the head *capital.*

The capital for the plant or factory is obtained from the sale of the stock. The success of the manufacturing or production depends upon: (1) skill of the workers, (2) ability of the managers in directing the workers, (3) up-to-date efficient equipment, (4) manufacturing a product that has a market or is in great demand. The capital necessary to buy raw material, pay the workers, and provide the necessary expenses to run the plant until the sale of the product, is usually obtained from bankers on notes.

Efficient Textile Organization. The history of the manufacture of clothing shows that prosperity can be increased greatly by (1) selecting and producing the right kind of raw materials, (2) manufacturing these more efficiently into finished fabrics and costumes,

(3) more economical distribution of both the finished fabrics and the finished costumes, and (4) making every effort to secure economical consumption.

While the first condition is more important than the second, the third and fourth are more important than the others at the present time. Hence they will be considered more in detail than the others.

Disposing of the products to the consumer, called *marketing*, existed back in the domestic and guild periods, but business became a tremendous force in society during the factory period. With this development came the need for extensive markets to dispose of cloth products, due to the high production and the sub-division of labor. Hence the need of a large force for the proper distribution of clothing arose with the development of the factory.

Overproduction. As the result of the introduction of machinery, especially automatic machinery, the production per operative or worker has become so great as to give us great benefits, such as: (*a*) the hours of labor have been reduced, (*b*) the cost of production is less because the production per worker becomes much greater, (*c*) increase in the quantity of production, allowing more people to use better wearing apparel. On the other hand, the introduction of the factory system and highly specialized machines has certain handicaps.

One disadvantage of the factory system of organization is that the mill or factory is equipped to make certain textiles and no others. In other words, machines are devised to do a special operation on a certain kind of material, and no other. For example, a worsted mill can produce either English hard-twisted worsted or soft (French) twisted worsteds used mostly for women's wear, but not both. It cannot produce woolens. The same is true with cottons. A mill may be equipped to produce medium-grade, but not high-grade cottons. It often happens with the change of styles that worsteds may be more popular than woolens, and the result will be that the worsted mills will be running overtime while part of the woolen mills will be idle. Then again a mill is laid out with a large number of machines which require a large order to start the mill and keep it running from day to day. After the World War, automatic machinery had been invented in such form that more fabrics were made than society could use, giving us overproduction, which lowered prices and caused mills and factories to shut down.

Mass Distribution Needed. With the development of mass production and distribution in America, businesses are growing larger year by year, and the nation today is passing through a period of industrial revolution. Business has passed through and out of the pioneer stage. A new kind of leadership is required by the new kind of business. Mass production calls for mass distribution, which, too, implies more than mere quantity. It means that the large quantities of goods turned out by the factories shall be put into the hands of the consumer at the lowest possible price. This involves the elimination of every possible waste in handling and selling.

Advertising. One of the most effective means of increasing the sales of clothing is through advertising. Examine carefully the advertisements of fabrics and clothing. Notice that they bring out the characteristics or qualities by pictures or printed information that appeals to one's taste or needs. In the beginning of this chapter it was shown that any agency can justify itself if it contributes to the increase in circulation of textiles from the mill to the consumer. Advertising is one of the most effective means of arousing the public to the value of textiles and thereby creating a demand for them. Most people do not realize the need of a fabric until its advantages are presented to them. These qualities are called "selling points."

Advertising also associates the name of a firm with a textile of a certain kind. In this way the good name or goodwill of a firm or fabric is established and increases the sales. The association of quality with certain firms is reported from customer to customer and from family to family, and becomes part of the assets of a firm and is known as its "goodwill." The name of the textile becomes the trade name or trademark, and may be copyrighted; that is, the United States Government will allow a firm to register at the Patent Office at Washington the name of a textile. If any other firm uses this name it may be prosecuted in the courts and made to pay damages due to loss of sales.

There are many methods of distributing textiles, such as commission merchant, jobber, etc.

Commission Merchant. In order to sell textiles on a commission basis a district distributor arose, called a commission merchant. This distributor may be an individual or a firm authorized to sell textiles in its own name or in the name of the foreign or domestic manufacturer. This agent is entrusted with the possession, management, control, and disposal of the goods to be sold.

Jobber. Selling agents usually exact very strict terms from the purchaser. Many dealers in textiles are unable to make quick payments, and consequently they are willing to pay a higher price for textiles provided they receive better terms of payment. Therefore an agent called a jobber has arisen, who buys textiles in bulk from the mills and resells them to smaller dealers at a higher price, in smaller quantity, and with long-term payments.

Broker. Textile manufacturers often authorize an agent to make a bargain and contract for raw material, unfinished cloth, etc. There are cotton brokers who purchase raw cotton for mills, also cotton brokers who sell raw cotton for the farmer. The same practice applies to textiles, etc. The broker differs from a commission merchant in having less power.

Converter. This term is applied to agents who purchase cloth (either cotton or silk) in the grey, that is, as it comes from the loom. This cloth is finished by the converter; that is, made white (bleached), printed, dyed, etc., according to demands of customers.

Retail Salesman. The final sales of textiles must naturally be in small units. Since most wholesalers tend to specialize, it is natural that there must be some agency that will bring together textiles of all kinds and dispose of them in small quantities. The retail dry goods store has undertaken this task.

Reducing Cost of Distribution. Various attempts have been made to reduce the tremendous cost of distribution, particularly in wearing apparel, by eliminating the expense of the distributing agents, such as commission merchants, jobbers, and in some cases the converters, with their large staff of traveling sales force. The principal means introduced to eliminate the cost of distribution is the substitution of (*a*) direct selling, (*b*) resident buyers, (*c*) chain stores, (*d*) group buying.

Traveling Salesmen. Most distributors have introduced their merchandise in the different parts of the country by means of traveling salesmen. The cost of maintaining a traveling sales force is large, due to the expenses and salary of each member. This is the old method of direct selling. Can this means of distribution be eliminated? An investigation by the National Credit Office shows that there are 95,000 small villages with a population of not over 500 now consuming 42 per cent of all cotton goods made in this country, and 3,750 small towns with populations of 500 to 10,000 consume 16 per cent. This means that 99,000 villages and towns with populations of less than 10,000 use 58 per cent of all the cotton goods produced by our mills, and most of the 95,000 rural places can be reached only by salesmen traveling in automobiles carrying samples of such goods as are generally found in country stores.

One of the methods of selling wearing apparel is by means of house to house canvassers, selling in direct competition with retail stores. Upward of 200 different articles are being sold by this method at the present time, including practically all of the staples dealt in by retail stores, and stopping only at the point where the initial payment required becomes so high as to discourage the housewife from buying.

Mill-Selling Force: Direct Selling. Many large mills find they can develop a more effective selling field by becoming their own merchandising and marketing agent. In other words, under the old organization of a separate selling agent the mill found it was not getting all the business that might be secured from present customers. Many were being sold only one or two of the company's lines, when they could readily use three or four. It also became obvious that the company was not getting the amount of business possible to be obtained in the territories in which it had no branch offices. The old, loose form of organization characteristic of the textile industry was not geared either for thorough merchandising or thorough marketing of goods. Therefore a new section was created in the mill, called a merchandising and marketing department.

The organization is as follows: First, a general merchandising manager, to whom all the individual merchandising managers report, is appointed. This makes merchandising a separate function

of the mill. Then a style director, who functions in an advisory staff position, is engaged. He brings in style ideas, lays out designs, goes over them with the merchandise managers, helps them to make selections and style their lines. Following this a sales promotion department is organized with a manager in charge. This department forms a contact and coöperates with both the merchandising phase of the business and with the general trade. An advertising department is an auxiliary of the sales promotion department. The office of general sales manager is created for the cotton goods department. This executive exercises central control and proper supervision over the activities of the sales force.

Resident Buyers: Group Buying. Group buying in clothing owes its existence to the rapid changes of styles of costumes. So rapid are the changes in style that selling style merchandise on the road is fast becoming a lost art. It is not always safe for a retail buyer to purchase apparel from a traveling salesman. Styles often change from month to month, and by the time the dresses are delivered they may be a month out of style. Then again, the cost of sending salesmen to call on individual stores is very expensive, while buying in large quantities by a single agency means a better price for the retailer of a small store. This group buying is normally carried on in the style center, New York City, by a resident buyer, who buys for many stores in the country, thus saving the expenses of the store.

As to the question of whether a local resident buyer is competent to select merchandise for sale in Ohio or Oregon, the manufacturer should remember that all sections of the country are linked by a similarity of tastes which is growing more uniform and changing less every day. Any successful retail buyer of style merchandise should be able to come to New York and buy for any other store in the country with success.

Retail or Dry Goods Store. The dry goods store is found in every village and hamlet, and is the center of trade in all communities. In the larger towns and cities the dry goods interest forms one of the most important departments of business, and greatly helps in sustaining all other branches of trade. The consumptive demand for dry goods increases in ratio corresponding with the increase of population. A business of such magnitude, involving so much

capital, and so intimately interwoven with the wants of our modern civilization, requires the best management possible to make it successful. Year by year dry goods stores are growing larger and larger with added lines of merchandise, until it is now possible to procure at the large department stores almost any article in common use by mankind.

Need of Coöperation. We have seen that the price that the consumer pays is based upon production and distribution costs. Therefore, in order that the price may be as economical as possible, it is necessary to have economical production and distribution. This can be done only when the consumer coöperates with both the producer and distributor so that they will not have to tolerate any such abuses as too rapid changes of styles, purchase of foreign-made goods, cancellation of orders, returning of goods, labor difficulties causing a shut-down, wasteful advertising, etc.

A course in clothing aims to develop ideals of dress, of community service, and of productive service, in additon to giving the student a knowledge and understanding of the worker as well as showing the place and value of the textile industries in the commercial world. This knowledge assists us in selecting the best standards (called ideals) and fosters correct ideals of beauty and proportion.

QUESTIONS

1. What is meant by (*a*) clothing, (*b*) dress, (*c*) wearing apparel?
2. What is the purpose of (*a*) clothing, (*b*) dress, (*c*) style?
3. Why is the question of clothing of importance to all?
4. What is meant by the expression "social value of clothing"?
5. What is the individual responsibility toward clothing?
6. What is the responsibility to community as regards clothing?
7. What is meant by (*a*) production, (*b*) distribution, (*c*) consumption as applied to clothing?
8. How can the consumers dictate or dominate the kind of clothing?
9. What is the aim of the clothing business?
10. Explain the difference between labor and capital as applied to the clothing industry.

11. Why is there antagonism between the consumer and man who sells clothing? Should this feeling exist?

12. What is meant by the "Consumers' League"?

13. What means has the consumer at his disposal to assist him in the proper purchase of wearing apparel?

14. What is meant by (*a*) labor and (*b*) wages as applied to the clothing industry?

15. Why should the consumer be interested in the workers upon wearing apparel?

16. Illustrate some of the grievances between capital and labor and state the effect on the consumer.

17. Explain the organization of a wearing apparel factory.

18. State the magnitude of the textile industry.

19. Name and describe the different periods of textile manufacture.

20. Describe briefly the organization of a cloth mill.

21. What is meant by an efficient textile organization?

22. What causes over-production of clothing or fabrics? Illustrate.

23. Why is distribution or marketing of such importance to the consumer?

24. Name and define the function of different selling agents.

25. How may cost of distribution be reduced?

26. Describe briefly the retail dry goods store and the methods of selling, including charge account.

27. What are the advantages and disadvantages of advertising?

28. What are the common abuses of the consumer that react eventually on him or her?

29. How are correct standards or ideals of clothing reached in a community?

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CHAPTER II

DRESS DESIGN

Importance. Since dress is important to each of us, and since we are different in form, complexion, etc., it is necessary to know how to apply to the individual the laws underlying the beauty of line, form, and color.

The impression we receive of a person's clothing, like most other impressions, is gained through the eye, and these impressions are interpreted or understood by the mind. Psychology is the science that explains the action of the mind. Hence the psychology of line, beauty, luster, etc., means the interpretation made by the mind of the impressions made by different lines, figures, forms, luster, etc.

As we look at the clothing of a person, we shall find two distinct outlines which are often called the *lines* of the costume. These have much to do with its beauty or attractiveness.

Lines of Costumes. These two distinct outlines or " lines " are (1) the outline of the costume itself, which is called the *structural outline* or *design* of the costume, and (2) within the costume itself other similar outlines or " lines " formed by the collar, panels, tucks, trimmings, folds, shadows, etc., called the *decorative outline*.

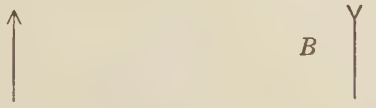
The expression " lines," as used in speaking of a whole costume does not necessarily mean the outline of the figure, but rather an effect of lines along which the eye is carried as we look at the costume. The lines may be the outline of figures or forms or lines suggested by shadows, masses of color, etc. Often these lines make an impression at a distance but on close inspection are not so clear.

A study of the effects of the lines of the clothing or the costume is well worth while, because they form the basis of the attractiveness of all costumes. If possible look at the outline of a person at a distance and notice the effect of what we call the *silhouette*. The effect of a costume at close range is not reliable, because we are inclined to be distracted by the trimmings or decorations.

The outline of a costume makes it either up-to-date or old style. The materials, trimmings, etc., contribute only a small part to the style. It is often possible to cover up the defects of the human figure — from an artistic point of view — making one look taller and thinner, stouter, etc., by the proper use of the right kind of lines in the costume. Therefore, in order to appreciate the full value of a costume we must study first the effect of different kinds of lines on the appearance of the person, such as (*a*) " turned up," (*b*) straight-line effects at the head or extremity of the costume, (*c*) narrow vertical, (*d*) narrow horizontal, (*e*) wide vertical, (*f*) wide horizontal, (*g*) combination of wide vertical and horizontal lines, " checks," through the costume, and (*h*) division of the costume by girdle or belt line.

Lines at Extremities. Observe the shaped hats, high, low, curved, " turned-up," and " turned-down," on both tall and short people. Notice that short people who dress well are inclined to wear hats tending to a point or " turned-up " effect, because they make one appear taller. These impressions may be explained by a study of different types of lines representing the lines of the costume.

First Case. Let us consider the effect of lines at the extremities of the body, particularly at the head. The hat is usually composed of a crown and sometimes a brim or attachment which either slopes or turns up or down. The effect of the high crown and turned-up or turned-down attachment may be represented by two lines, *A* and *B*,



which represent the height of the person. The crown and attachment may be represented by arrow heads. The turned-down effect may be represented by arrow head at *A*, and the high crown or up-turned effect by arrow head at *B*. While the lines *A* and *B*, corresponding to the height of the person, are exactly the same length, the line *B* appears longer than *A* because it has the effect of elongation or lengthening.

This effect may be explained in more detail as follows: we receive our impressions through the eye, by means of light. It is impossible to see the color and shape of a costume in the dark. Light comes either from the sun or some illuminated object like an electric lamp, or reflecting object like a mirror, in the form of straight line vibrations. The vibrations reach the eye, then are conveyed to the optic nerve and retina, and are immediately transmitted to the brain where we experience the sensation of line, form, color, etc. The retina is very sensitive and holds an *after-image* after the object has disappeared.

To summarize: As we look at lines *A* and *B*, the line with the arrow head opening upward leaves an after-image of elongating or lengthening the line, while the other line with the arrow head opening downward leaves an image shortening the line.

The deceptive appearance due to after-images is very common, particularly with regard to lines, colors, and texture of cloth, and is called an *illusion*. A deceptive or unreal image that is carried to the mind, whether favorable or unfavorable to the appearance of the person wearing the fabric or costume, is called an optical illusion or after-image. The question of proper costuming depends to a large degree on the proper application of after-images or illusions to overcome defects of the human form or bring out the strong points of the person's appearance.

Second Case. Recall to mind different people, tall and slim, with wide-brim hats and large shoes. Notice that tall people can wear wide brims and longer shoes than smaller people.

Consider the effect of wide-brim hats or large shoes. Let *A*, *B*, and *C* be three lines representing the height of the person.

Let the horizontal lines at *B* represent a narrow-brim hat and small shoes, horizontal lines at *C* represent a wide-brim hat and large shoes. Notice that line *C* appears a little shorter than *A*, and *B* a little longer, due to the after-image. The wider horizontal line gives an after-image of width and therefore the line appears shorter.

Third Case. Observe the straight-line effects: (*a*) vertical stripes, (*b*) horizontal stripes, (*c*) checks or plaids in different widths, on short-stout, short-thin, tall-thin, and tall-stout people. Which pattern appears to best advantage on different sizes of people? Let *A*, *B*, *C*, *D*, and *E* be five straight lines representing the same height of a person.

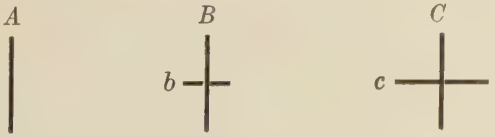
B appears longer than any other line, due to the after-image of the successive vertical lines. *C* appears longer than *A*, *D*, and *E*, and shorter than *B*. *D* appears longer than *E*. In other words, narrow vertical stripes increase the height much more than wide vertical lines. Wide horizontal lines, such as a plaid, give an after-image of width. Narrow horizontal lines do not give such a strong after-image of width as the wide bands.

Notice the band on straw hats and the girdle line on costumes. Note the effect of the band cutting the crown in two and of the girdle or waistline coming exactly half way at the height. Which gives a shortening or lengthening effect?

STOCKINGS

1. After-image good for thick ankles, but single pointed heel would be better.
2. Good for thin ankles.

Let *A*, *B*, and *C* be three lines representing the same height of crown of hat or height of person.



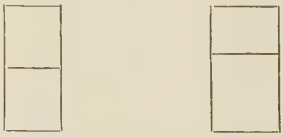
1 2

COATS

1. Shortens figure.
2. Lengthens figure.

Line *B* appears shorter than *A*, and longer than *C;* and *C* appears shorter than *A* or *B*, which shows that a vertical line cut into equal parts by a horizontal line gives an image of shortness depending upon the length of the horizontal line.

Good Proportion. If lines are arranged so that they hold one's interest, they are in good proportion. In order to hold interest, they must have something more than a common-place relation. To illustrate: a rectangle divided by a horizontal line into two equal parts will not appear interesting, and it is not as attractive as a rectangle of the same size divided by a horizontal line thus:



into dimensions of more than one-half and less than two-thirds.

Hence, hat bands are usually nearly two-thirds as wide as the height of the crown in order to give an after-image of height and also to be attractive.

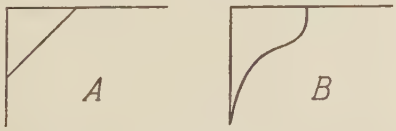
Effects of Lines. Vertical and horizontal lines run in different directions, and when they meet, as thus: ⌐ , they convey the meaning of *opposition.* Lines are sometimes repeated, as thus: ⌐ , and are spoken of as *repetition.* Repetition empha-

sizes the characteristics of the line, hence it is used to attract attention.

Vertical, horizontal, and diagonal lines joined together produce a sensation of *contradiction,* and the diagonal line is called a *transitional* line. The diagonal or oblique line lies in direction between the vertical and horizontal lines, and conveys an impression of interest because it is not so common as the vertical or straight line.

LINE EFFECTS

The direction of lines often conveys a definite meaning — of static or dynamic motion. Look at perpendicular or horizontal lines and then look at oblique. Note that the oblique line conveys action and is often spoken of as a dynamic line, while the perpendicular or horizontal lines convey the idea of inertia or lack of motion, often called static. The idea of dynamic lines was developed in Northern China, and was brought into the other oriental countries by way of India, by the Mongolian invasion into Europe as far as Hungary in the twelfth century. The oblique or dynamic line has added an element of interest for designers and costumers.



If a curved or broken line were used instead of the diagonal straight line, it would convey a softer impression, hence we obtain the transition line *B*.

These effects are used in clothing and produce the effects of

1 2 3

1–2. Horizontal and vertical lines — opposition.
3. Transition of line from collar.

4 5

4. Note diagonal effect.
5. Note perpendicular and horizontal effects.

6 6 7 7

Examples of static (6) and dynamic (7) lines.

opposition, repetition, and transitional modification or softening. To illustrate: A costume may emphasize the shape of a very pretty face by having the collar, which is the frame of the face, repeat the shape or contradict the shape of the face. On the other hand, if one has a poorly-shaped face, the collar should have a shape between the transitional and contradicting lines, which will neither emphasize by repetition or contradiction, but modify the effect, thus softening the lines of the face.

1 2 3

TYPICAL NECK LINES

1–2. Poor for a thin face.
3. Good for a thin face.

Neck Lines. During the ten years prior to 1930, the neck has been exposed, which has increased the importance of having a proper outline to the neck.

The neck line is an important feature of the costume. It is the frame of the face and either modifies or magnifies any weakness, or brings out the strong points of the countenance. The shape of the face may be emphasized in two ways: through repetition and through contradiction. The most becoming neck line will be the happy medium or with transitional line.

A round neck line repeats and emphasizes a round face, while an oval or U-shaped one will apparently lengthen it. Boat-shaped neck lines will emphasize the slender face. Such devices as round collars and rolling ones, and those which give width, such as yoke effects and bertha collars, will shorten the distance between the shoulders and hair line and make the neck seem shorter and not so thin. Square neck lines or V-shaped ones, or those with straight lines in them, transitional to the round lines

of the face, are usually most becoming. The person with an angular face should wear soft, round lines around the neck, and rolling collars are good. Straight lines and points and any severe decoration in the center of either hat or neck line should be avoided, for they will emphasize the angles of the face.

Straight and Curved Lines. Look at the lines of the different costumes worn by different people: (*a*) party dress, (*b*) tailored costume, (*c*) men's clothing. Notice that the tailored costume is composed of more straight lines than the party dress. Men's clothing as a rule is composed of more straight lines than women's clothing. A straight line leaves an impression of seriousness or severity, while the curved or broken line leaves a feeling of softness and gentleness. Why do these lines leave different impressions? This question can be explained only by the conditions we find in Nature's pattern book.

Nature's Pattern Book. " Nature " is a term we apply to the power that has established the existing things, that is, the process of creation and the order of events, normal associations, etc. The designs and order of plants, minerals, etc., may be called Nature's pattern book. The laws that govern existing things we call natural laws. Since our minds are part of nature, it is only natural that they should act according to natural laws and appreciate artificial things — man-made — according to the standards of Nature, that is, prefer those that conform to the colors and forms and patterns that we find in Nature. We find there that straight lines are associated with the strong forces, such as the flash of lightning, the ridges of stones, while curved lines are associated with the softer things, such as the outlines of leaves, flowers, etc.

The geometrical forms such as the triangle, square, hexagon, and circle are found in nature, and each one arouses an association in our minds. For example, the triangle is found in hard, crystalline substances like the diamond.

The triangle is composed of sharp angles that represent the path of lightning, shape of edges of cliffs — powerful forces; hence we associate the triangle with force and strength. The square and hexagon are found in nature in the shape of the softer stones and

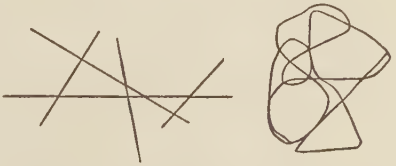
of the cells of the comb of honey. The circle is the cross-section of plants, and curves of various shapes are found in the outline of leaves, flowers, etc.

Degrees of hardness and softness are expressed in the forms of geometric figures from the triangle, with the acute angles — which suggest force and strength — to the circle with its curves suggesting delicacy and softness.

Artistic or Beautiful. Since the lines of a costume are important and assist in making our clothing artistic and beautiful, let us see what determines artistic or beautiful lines. Experts with taste have very carefully considered the question of the artistic effect of costumes, and they find that the principles or laws of Nature underlying this subject are the same as those applied to painting and architecture. They may be briefly expressed as

(*a*) Unity (*b*) Rhythm (*c*) Balance
(*d*) Harmony (*e*) Subordination (*f*) Proportion

Unity. Everything in Nature has unity and harmony; hence, our minds crave and appreciate designs that have these qualites. To illustrate: a design that is composed of a group of lines, like the accompanying is not pleasing because it fails to convey the idea of orderliness, that is, a worked-out design where every line or part contributes to the whole. On the other hand, figures like the triangle, square, hexagon, and circle give the idea of *unity* because the lines are connected, and each one contributes to the whole figure.



Lines may be firm, rough, ragged, smooth, flowing, straight, broken, or curved. Lines may be isolated, or radiate from central points into spirals or scrolls, or interlace. If lines are straight or angular, they should make geometrical forms and not appear isolated. On the other hand, if the lines are curved, they should assume flowing directions, so as to make graceful forms in order to comply with the law of unity.

1 2 3

1–2. Curved and irregular lines good for evening wear.
3. Vertical or horizontal lines good for day wear. Width of stripes should be varied.

Violation of the principle of unity is often shown as follows: (*a*) excessive trimmings; (*b*) too many kinds of trimming on the same fabric, such as lace, ribbon, embroidery, beads, tinsel, buckles, tucks, etc. As a rule, over two kinds of trimming on the same costume violates unity.

As we look around, we shall find some people simply dressed; — others overdressed, with excess trimmings or jewelry or contrasting materials or colors. The effect of overdressing is to cause confusion and is often expressed as lack of unity. In other words,

costume should have unity. Egyptian costume illustrates unity and simplicity of line in design.

Criticize the lines of the above costumes.

A costume developed in true unity is one to which nothing can be added and from which nothing can be taken without interfering materially with the beauty and harmony of the whole.

Harmony. Harmony as applied to lines of wearing apparel means that a definite relationship must exist between (*a*) lines, (*b*) values, (*c*) colors, and (*d*) textiles used. To illustrate: if you look closely at a costume, you will find that the trimmings, such as braid or the buttons, may be arranged differently on the different parts of the costume — sleeve, skirt, blouse; but the trimmings or the buttons will be of the same color or tone so as to have sufficient likeness to make them interesting to look at. In other words, harmony means there must be a common factor in the various parts of the costume. Notice that a design of a combination of broken lines, that is, one composed of unrelated shapes, gives one a feeling of disorder — which is not harmony.

Rhythm. A measured movement of the body or arrangement of lines, colors, shapes, etc., gives an artistic impression called *rhythm*. In many costumes we find a repetition of trimmings — such as flutings, pleatings, cord, plaid, or color, etc. — which makes the clothing very attractive. The purpose of such repetition is to emphasize or center interest on one part. Rhythm is usually obtained by repetition.

1–2. Radiation. 3. Good for this person. 4. Good for sport clothes.

To illustrate: Look at a serge fabric; notice how the diagonal effect is repeated in such a way as to carry the eye from one part to another. This is also true in a lace or embroidery effect. This form of rhythm is called *repetition*.

If we examine an attractive dress with pleats, we shall find that

the pleats increase or decrease in size, and the eye is led from one pleat to another. This principle design is called *gradation.*

Notice carefully the design of a dress or costume that is made by lines that merge from two directions, as the flowing of line from collar to yoke. Such a design is called *transitional.*

The design of a draped costume that starts from a common point like the hip or shoulder and develops into a series of radiating lines follows the principle of *radiation.*

Proportion. We have already seen that the design of our clothing is the combination of lines, masses, and color. Lines — either straight, curved, or broken — may be grouped together in such a way as to be either pleasing or unattractive. If they are pleasing, you will find that it is because they are properly spaced or planned to convey the idea of good proportion. If the lines are spaced equally in simple relation, the eye immediately sees the relation, and it appears so simple and childish that it becomes monotonous. On the other hand, if the mathematical relation is not simple and the proportions not easily seen, then it becomes more interesting.

Balance. The design of a costume should divide it so as to be artistically arranged. The same is true of the design of a fabric — there should be a balance or symmetry of design. This is very important in all types of costume and textile designing. Many designs are made up of two parts, at the left and right of an imaginary line passing through the center of the design, so that both the left and right parts are similar. Such a desgin is dignified and formal, and is called *bisymmetrical.* On the other hand, there are many attractive designs in textiles in which the balance is properly obtained when the areas are not similar, due to proper balance of the mass of the design. This is spoken of as *indirect* or unequal balance, and is more attractive but more difficult to design than the bisymmetrical type.

To illustrate: Most costumes rest on the person in such a way as to give an impression of repose. There may be a center line of trimmings, etc., which gives one a feeling that the costume is equally

1–2. Bisymmetric balance.
3. Top heavy — out of balance.

balanced (called *formal*). In other cases, two sides of the dress may not be the same, but there is a feeling of equal weight conveyed. This character is called *occult* balance, which gives interest and variety. The occult balance idea develops an original silhouette interpretation, which is seen in certain one-sided evening gowns as well as in wraps having a coat sleeve at one side and a cape at the other.

Occult balance may be illustrated as follows: Designs of many lots, *i.e.*, small ornament, may be balanced by a large unbroken space on the other side and an extra width of trimming.

Subordination. The person wearing the costume is expected to be the center of attraction. Hence, all such features as lines and colors should be subordinated to the one who wears them. When this scheme is carried out, it is spoken of as *subordination.*

Variety in Design. Look at the lines in different costumes. Notice that some appear more attractive than others, due to

variety in design. Since a design is made of vertical, horizontal, diagonal, curved, or broken lines, or combinations of them, it is clear that one that has a *variety* of lines will be the more pleasing — due to contrast — than one that is monotonous. The repetition of the same lines done artistically, that is, so as to appeal to the mind, arouses a feeling of satisfaction.

Figure subordinated by too many lines.

Human Form. The human form varies in different people in size and shape, and while in some cases it does not conform to the standards of beauty as outlined in the following chapter, the ideal human form does reflect beauty. Since it is the purpose of clothing not only to cover the body and keep it warm, but to make us appear to advantage, it follows that we should know the artistic points of the human anatomy, so as to adapt the clothing to bring out these points. Even if the human form has certain points that are not artistic, it is possible to conceal them by proper use of clothing devices that will produce after-images to cover up the defects. Hence the need of the study of the different types of the human form, in order to know the points of excellence and weakness of each type from an artistic point of view.

The Human Figure as a Unit. Many people, including dressmakers and tailors, consider the dress or costume or suit as a unit in itself, and work on that basis in manufacturing wearing apparel. A little analysis will show that this idea is incorrect, that the complete human figure, from the top of the head to the sole of the foot is a unit, and all parts of wearing apparel should be constructed and decorated with this entire human figure in mind as a unit. Hence, we must consider the color and texture of the hair, eyes, shape of the head, neck, body, and limbs as well as the personality of the wearer in planning the wearing apparel.

Structure of the Body. Since clothing is used as a covering it is necessary to know the shape and movements, etc., of the body in

order to provide the proper shape and kind of clothing to bring out its artistic beauty.

We all know that the human body consists of a bony structure called the skeleton, covered or filled in with flesh and blood, covered on the outside with a layer of skin. While people differ widely in shape and size, due either to the length and thickness of bones and quantity and quality of flesh covering the bony frame or both, the number and kinds of bones and the manner in which the bones are connected are exactly the same in all of us.

Roughly, the bony structure consists of a jointed back bone, supporting on top the head, with extensions of the arms and legs. The parts of the human structure are connected (articulated) by joints which allow the body to move in parts. The principal joints (articulation) are neck, shoulder, arm and elbow, wrist, hips, waist, knee, and ankle.

From an artistic point of view, the structure of the human body may be divided into two great divisions — the trunk or upper part of the body (sometimes called the torso) and the limbs — arms and legs.

Since the structural part of the body represents the important part, it follows that the structural parts (design) of the costume should be carefully planned. What are the structural parts of a costume? (*a*) Neck line, (*b*) shoulder seam, (*c*) median seam, (*d*) arms eye, (*e*) waist line, (*f*) division of the skirt, (*g*) bottom of the skirt.

Since the body changes its position by the movements of the limbs and points of articulation it follows that clothing must be hung from the division and articulation points and also be soft and pliable.

Artistic Points of Human Anatomy. The ideal human body — in both shape and proportion of the parts — represents the most beautiful form from the artistic point of view. The Greeks conceived this ideal form in their works of art. The one that typifies the female form in the highest degree is the statue of Venus. Notice the hair, the shape of the head, the beautiful curves of face and neck. The curves at the waist are gradual and represent one of the most artistic parts of the body and are often

called the Greek curves. From the bust to the waist represents a series of curves that are gradual and yet represent beautiful lines. The same applies to the rest of the body — the thighs, sloping of the legs, ankles, and feet. An analysis of the Venus shows us that there are three things that go to make an attractive mouth. The first is of course the beautiful curves, the second softness, and the third expression of the lips.

THE VENUS DE MILO

Notice in the figure of the Venus de Milo the rhythm in the lines of the body. Remember that the lines and shapes of the human form are magnified (accentuated) by the use of lines which repeat them, and also by lines that contradict them. The use of transitional lines — that is, lines which come halfway between repetition and contradiction — modifies the effect of the lines of the human form.

The lines of the human body are: (*a*) oval, outline of the face; (*b*) vertical, backbone; (*c*) horizontal, line of the mouth; and (*d*) slight curves, Greek curve of the waist. The lines of the human body flow naturally from one to the other without abrupt or sharp angles.

The center of attraction of the human figure is the face, which is more or less oval or egg-shape, with the small part of the oval near the chin. The variations of the oval give us the shapes of faces, such as (*a*) perfect oval, (*b*) somewhat circular, (*c*) long and pointed chin, (*d*) square like.

Since the perfect oval is the most artistic of all the facial forms, it is only natural that we should try to have faces appear oval by after-images of lines, such as lines and shapes on collars, hats, earrings, etc. A perfect oval face may be emphasized by surrounding

lines of clothing, etc., of repetition and contrast. A square face may be modified by V-shape necklaces and broken curves of the hat. A long pointed face may be corrected by modified round neck lines and drooping lines.

We should always remember that clothing should bring out the artistic and individual nature of the person; hence collars, trimmings, etc., should not be so conspicuous, particularly about the face, as to distract attention from the center of the figure — face.

Notice that there are few if any straight lines in the model of the female form. The outline or contour is made of gently rounding curves forming beautiful lines that appeal to the eye.

The clothing, drapery, and jewelry are arranged on flowing lines and curves. The curves convey the effect of softness, gentleness, and grace. Hence we expect the ideal dress of women to be composed of curves, which require drapery, while we associate tailored clothing built on straight lines with men.

Note also that a woman's face is usually rather large for her head. The Greeks realized this and placed a knot of hair at the back of the head to balance the face. They also increased the width of the hair at the sides to make the face smaller and daintier. Hair pulled down on the forehead has the effect, also, of making the face appear smaller.

Notice that the ideal human body has all the splendid qualities of beauty:

(*a*) Unity — all parts are properly articulated.

(*b*) Subordination — all parts are subordinated in position to the face.

(*c*) Proportion — all parts are properly spaced from an artistic point of view — waist line nearly two-thirds from the feet.

(*d*) Rhythm — the eye follows interestedly and easily the lines of the body.

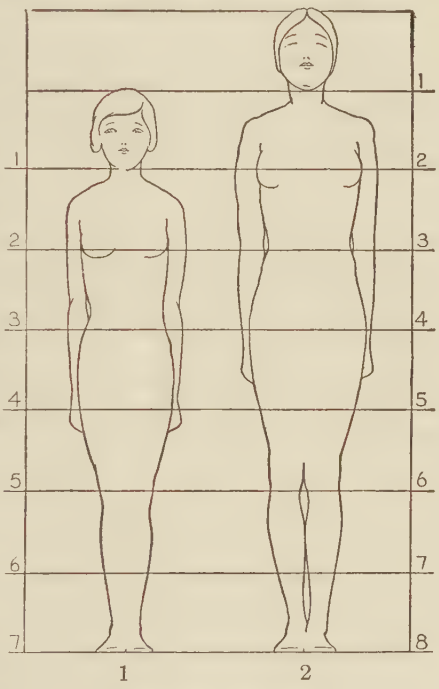
(*e*) Balance — bisymmetrical.

Style of Figure or Form. At different times in history and with different races we shall find different normal bodily forms. These differences are due to (*a*) method of living, (*b*) inheritance, (*c*) geographical conditions, etc.

The style of the figure changes from time to time. It may

have a plumpness during one period or it may tend to flatness and angularity, as during the period after the World War.

The *svelte*, well-rounded, yet slender figure, without a bone showing, is acknowledged today by fashion, as it always has been by classic art, to be the perfect feminine figure. Healthy, well-exercised muscles must underlie this symmetrical figure — muscles padded with firm tissue, neither too fat nor too thin, as healthy muscles always are.



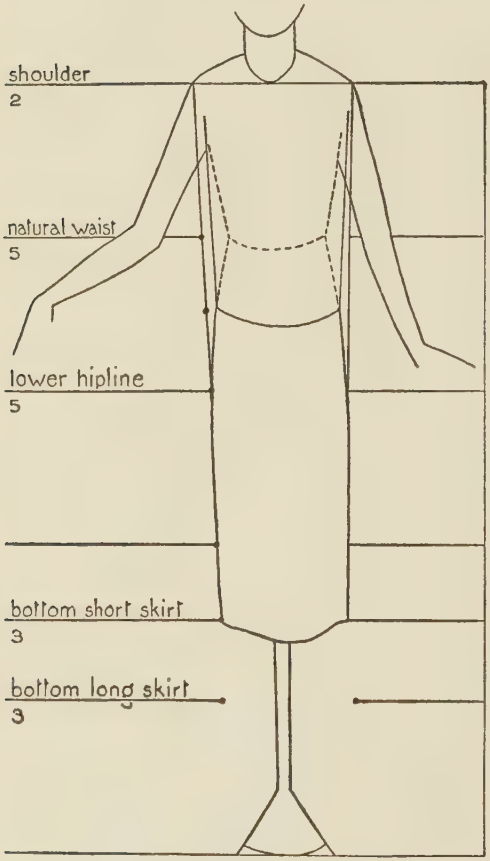
MODEL FIGURES

1. Fifteen-year age.
2. Normal figure for costume work.

Ideal Proportions of the Human Form. By a process of artistic selection, the designer of costumes has adopted proportions of the human form which give the most pleasing effect and called this form the *model*. The height of the whole body is divided into units of head lengths, which run from seven and a half to eight units. A head length is the distance from just below the crown of the head to the chin. The body would be divided into head lengths as follows: (*a*) head; (*b*) chin to bust; (*c*) bust to waistline; (*d*) waistline to the end of torso or form (where legs branch from body); (*e*) from torso to half way down thigh; (*f*) half way down thigh to center of knee; (*g*) center of knee to near ankle; (*h*) near ankle to the foot.

The arm (wrist to elbow) should be one and one-half heads. The neck about a half head.

Types of Female Figures. While the number of lines and



Shoulder is the unit; entire figure from head to foot — 6 units.
Dress itself a long, narrowing rectangle of $3\frac{1}{2}$ units.
Upper arm, one unit; lower arm, $\frac{3}{4}$ unit; hand $\frac{3}{4}$ of lower arm; width of arm less than neck.
Width of neck, $\frac{1}{3}$ unit.
Height of shoulder at neck, $\frac{1}{6}$ up from the construction lines.
Bottom of collar, a semicircle beginning at inner shoulder and touching construction line.
Height of collar, $\frac{1}{6}$ unit.
Upper and lower lines parallel.
Waist line, $\frac{1}{6}$ in. from construction line.
Upper hipline, $\frac{1}{2}$ way between waist and hip.
Triangle at base, less than $\frac{1}{2}$ unit.

COSTUME DESIGN — LAY FIGURE

parts of the anatomy of all of us are the same, the shape and length of the different parts of the human body vary with different people and at various times of life.

From the time of childhood to the period of sixteen or eighteen years of age and then to womanhood, one changes greatly. Up to sixteen one gains in height but gains little addition to

Eyes one-half way between top of head and chin. Eye one-fifth of whole distance across. Width of an eye between eyes.
Nose less than one-half way between eye and chin.
Mouth less than one-half way between nose and chin.
From top of head to chin — two-thirds unit. Head — oval shape.

Inside of leg from skirt to ball of foot quite straight.
Ankles less than one-half unit from the floor.
Width of leg less than neck. Ankles, one-sixth unit.

ENTIRE LAY FIGURE

the flesh or muscle surrounding the bones. But after this period there is a tendency for many to add to the weight of the body by accumulation of tissue around the bones, particularly the bust, waist, and limbs. Then again many lose little by little after the age of sixteen the distinct spirit of youth. Women are not entirely developed until they are over twenty-five.

The adult human form may be classified outside of the normal figure according to weight and height as follows: According to height: (*a*) the short; (*b*) medium; and (*c*) tall; and according to weight: (*a*) thin; (*b*) medium; and (*c*) stout.

In order to make a general classification, these groups must be multiplied one to the other, giving in all nine different types according to height and weight. Most authorities classify them as follows:

STOUT MEDIUM THIN

Short, thin woman — five feet to five feet three inches in height and thirty-two to thirty-six inch bust measure.

Short woman of medium weight — five feet to five feet three inches in height and thirty-eight to forty-two inch bust measure.

Short, stout woman — five feet to five feet three inches in height and forty-four to fifty-six inch bust measure.

Woman of medium height who is thin — five feet four to five feet seven inches in height and thirty-two to thirty-six inch bust measure.

Woman of medium height and medium weight — five feet four to five feet seven inches in height and thirty-eight to forty-two inch bust measure.

Woman of medium height who is stout — five feet four to five

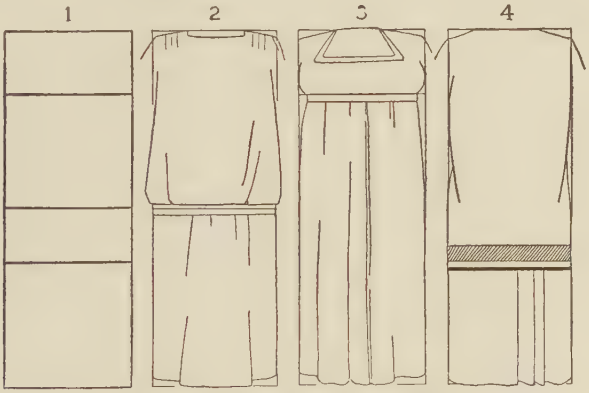
feet seven inches in height, and forty-four to fifty-six inch bust measure.

Tall, thin woman — five feet eight inches to six feet tall and thirty-two to thirty-six inch bust measure.

Tall woman of medium weight — five feet eight inches to six feet tall and thirty-eight to forty-two inch bust measure.

Tall, stout woman — five feet eight inches to six feet tall and forty-four to fifty-six inch bust measure.

The clothing devices to be used to render one normal are described in detail on pages 47–56.



GREEK LAW OF DIVISION

Demonstrate with breaking into pleasing proportion of areas on oblong.
1. Oblong shows pleasing division somewhere between one-half and one-third of height. Avoid equal divisions such as one-half (monotonous) and avoid extremes.
2. Monotonous division by belt-line.
3. Extreme divisions (as is Empire period).
4. Good proportions.

Proportion of Costume. Since the ideal human form is well-proportioned, clothing should be arranged proportionally.

The set of proportions developed by the Greeks is usually expressed as 3 to 5, 5 to 8, 8 to 13, 13 to 21; that is, the proportion formed in a series when the sum of the two parts creates a whole that bears the same relation to the large part as the larger part bears to the smaller.

There are certain parts of the costume, such as the top of head, neck line, bust line, belt line, and skirt line, that can be raised or lowered so as to make the form appear better propor-

TALL THIN (Same figure) — Accentuated First Empire Costume

TALL THIN — Hidden Late Renaissance Costume

tioned and hence more artistic. The same is done by the addition of trimmings, such as collars, cuffs, belts, panels, ruffles, tucks, etc. Good points of the form may be emphasized.

The human form when clothed may be considered as divided into the following horizontal lines on the height:

..... Head line.
..... Neck line.
..... Bust line.
..... Waist or belt line.

..... Skirt line
..... Foot line

The model figure has certain definite relations between these lines. Most costumes are made for the model figure. For those who have not a model figure, it is possible to raise or lower the belt line or add trimming to the dress so as to emphasize the good and modify the poor points.

To illustrate good proportion: (*a*) Shirt waist, blouse should be combined in such a way that the length of blouse, etc., (from neck to the bottom) compared to the length of the skirt (from bottom of blouse to the bottom of skirt) should be in proportion from one-half to two-thirds or 5 to 3 to each other to bring out the artistic proportion of the body. (*b*) Bands on hats should cover more than a half and less than two-thirds.

Summary. The shapes of the human form and wearing apparel are produced by combination of straight, or curved, or a mixture of straight and curved lines. Lines may be emphasized either by (*a*) repetition or (*b*) decided contrast, and softened by transition lines and made more interesting by contradiction lines.

By applying the laws of optical illusion due to after-images one perceives that a short-stout type may appear to advantage to the extent of (*a*) several inches in height, (*b*) a half inch in the circumference of the ankle, (*c*) twenty pounds from her true weight, by a discriminating use of line.

Each line in the design of a costume makes a different impression on us. Straight lines give an impression of steadiness and severity, while a curved line conveys grace and freedom.

The direction and shape of the line conveys a definite impression. The broken or bent line gives the impression of dejection and despair.

(*c*) Straight-line effects in costumes tend to give an air of dignity and strength to the wearer.

(*d*) A vertical line tends to give the effect of elongation or lengthening. This tendency may be increased by means of sharp projecting lines similar to the arrow heads. It may also be increased by the repetition of parallel lines close together, as in the lines of trouserings or hair lines in suitings. The repetition emphasizes the effect of simple lines. The nearer the lines are together, the better the effect. Parallel lines widely separated do not give this lengthening effect to any marked degree.

(*e*) A horizontal line gives an image or idea of broadness. Many horizontal lines quite close together make an image that tends to go upward and increase in height. If the horizontal lines are far apart, they increase the broadening effect of one horizontal line.

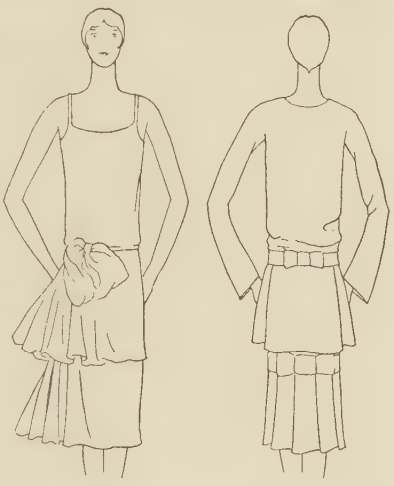
(*f*) Curved lines on the figure are of two kinds — slight and sharp curves. These two types have been fashionable at different periods. From a distinctly artistic point of view, slight curves, especially gentle curves approaching or tending toward the straight line, are more pleasing than the straight lines or the sharp curved lines of the figure.

Artistic Nature of Clothing. Since one great purpose of clothing is to bring out the artistic side of the ideal human form, it follows that clothing should correspond to the form as follows:

(1) Since the body is bisymmetrical, clothing should be more or less bisymmetrical, that is, the two sides of a costume or suit should be the same so as to give formal balance. There are times when informal balance is found, particularly in women's outer clothing, but an investigation will show that in order to be quite artistic this must be done carefully and arranged so that large shapes are nearly at the center line and small shapes away from it.

(2) Clothing should be adapted to the size, shape, and movements of the body, hence the structural design should be good in order to be artistic.

(3) Decorative effects may be added to the wearing apparel and make it appear artistic. Although we must bear in mind that regardless of the decorative design, it is not artistic unless properly constructed.



PROPORTION

1. Poor space divisions — equal areas.
2. Good space divisions.

Clothing, in order to be beautiful and comfortable, must be adapted to the joints and divisions of the body. This means that clothing should not follow the human figure so closely as to appear immodest or uncomfortable. There should be sufficient freedom in walking to give a good appearance; yet on the other hand, the costume should suggest the beauty of the human figure and not appear to project at unexpected places.

Some periods adapted the design of clothing to the human form while other periods did not. To illustrate: All the costumes from the earliest times to the sixteenth century attempted to follow the general outline of the human body, but those during the Renaissance did not. (See Chapter IV.)

Structural Lines. Remember that the structural lines of a garment must be good; if they are not, no amount of trimming or accessories can make it a success. The lines of greatest importance are:

1. The neck line.
2. The shoulder seam.
3. The armhole.
4. The under-arm seam.
5. The waist line.
6. The skirt length.
7. The seams — their placing and direction between the panels or sections of the skirt.

The sleeves and neck lines are the " punctuation marks " of dress design. Study your type. Note your good and your bad points; then make your selection of becoming styles the means of *giving your frock personality.*

The neck line should be in harmony with the shape of the face and chin and the length of the neck. The general proportions of the whole body should be considered. The contour of the collar is very important.

Remember that horizontal lines in neck finishes carry the eye across the figure and tend to increase the breadth of the upper part of the body. Vertical lines carry the eye up and down and tend to increase the appearance of length and slenderness.

The following general rules are important:

1. A person with a *long, thin neck* looks well in collars that roll up or are fitted up in the back. This covers up the collar bones and does not give the impression of severity which is so trying to this neck.

2. A person with a *short, thick neck* looks well in flat collars, especially collars that carry the line of the neck opening of the dress down the front in a long, slender line.

3. If the *face* is *long* and *thin* and the neck is *slender*, a long pointed neck opening will make it look still longer, whereas a shallow neck opening and a collar that fits close and high in the back will modify this effect.

4. A *pointed chin* looks more pointed if the neck opening is pointed, just as a square jaw looks more square if the dress has a square collar.

5. For *broad shoulders*, have the neck line high at the back and the sides.

Posture and Proportion. The posture of a person, that is, the way one stands, sits, and walks, has much to do with the artistic appearance of the human form. One of the most effective ways of developing proper posture is to have the figure in proportion or appear to be in proportion. What are the proportional parts of the human form that make us appear artistic or stylish? The following scale for each part of the body has been approved by fashionists, artists, etc., therefore it should be a reliable guide to follow.

(*a*) (1) The normal height of the body of the average stylish person should be seven and a half times the height of the head, that is, the distance between the crown of the head and the tip of the nose, or (2) eight times the length of the face, measuring from the hair line to the tip of the chin, or (3) nine times the length of the hand, measuring from the tip of the second finger to the wrist, or (4) six or seven times the length of the foot.

(*b*) The distance from temple to temple should be the same as the distance between the hair line and the point of the chin.

(*c*) The distance between the shoulders, that is from tip to tip, should measure twice the distance from temple to temple.

(*d*) The arms should be one-third the height of the figure.

(*e*) The legs should be four times the height of the head.

(*f*) The lower part of the arms should be the same length as the upper part.

If the lengths are not in proportion, then clothing devices must be used to give after-images of either shortness or lengthening, to make them proportional as given on page 53.

Every woman with arms disproportionately long may reduce this effect by a break in the length of the sleeve. A cuff effect may be introduced, the shoulder may be dropped, or tucks or gathers may be introduced.

Various designs are suggested. A fold or band of the fabric from which the gown is made may be set into the shoulder seam

and carried down the front in such a way as partly to conceal the upper part of the arm. Or the shoulder may be made low, thus serving the same purpose. Flying panels from the back either falling straight or pulled toward the front and tied in a bow at the center or at one side with the ends looped over, may effect a like concealment. Such arrangements are less obvious than a scarf.

Since peaked features give a feeling of severity or coolness, a woman with peaked features should wear warm colors. The effect may also be overcome by avoiding wearing apparel with points. She can wear thin fabrics provided they do not hang too loosely and have a flabby appearance. The thin neck may be minimized through various devices such as a roll collar, a few tucks or gathers, when these are in conformity with the current mode, by soft things that tie around, or some little intricate fastening that will serve to draw the eye to it.

Thin or stout women may appear to advantage by using fabrics that have a small pattern and a vibrating effect, since these fabrics attract attention to themselves and away from the modeling of the figure beneath.

Knowing the above relations and comparing them with the dimensions of our body, we can easily decide the clothing devices necessary to make us appear normal.

For broad hips, the long lines of the dress, that is to say, the positive lines, must be made to attract attention, and the shoulders may be given a balance by being slightly broadened. Raglan sleeves or tucks may be used to create this shoulder effect and thus make the figure more proportionate.

Psychology of Style of Costumes. Style determines the correctness of the cut and lines of a costume, and one should always select the proper cut and line for this reason. But there are certain principles of lines that never change and will assist us in selecting the costume that will show the figure to advantage by optical illusions or after-images.

The lines of the costume may suggest strength, beauty, or

weakness. Notice the straight-line effect of a tailored costume, or a plain dress, or even a sailor hat, and the impression it gives of dignity and strength. Hence, such a costume should be worn on occasions of service and dignity — such as at business.

A broad hat tends to make one look shorter by giving the horizontal or width impression at the head. A turned-up hat adds to the height by leaving an after-image of lengthening at the head, while a hat turned down gives an after-image of shortness.

Hair worn high on the head also leaves the lengthening after-image, while hair worn low leaves a shortening impression.

Let us look at the outline, features, and expression of different people.

1. For those who have severe features and straight lines in the body, of course, a tailored costume increases the tendency and makes one look more severe and dignified and the lines appear more prominent.

2. A person with an angular face should wear a round neck line to give the impression of roundness or plumpness to the face and overcome the angular effect. In addition, yoke effects and berthas give width to the neck and face. Straight-line effects and points, such as one finds in the square neck or V-shape collar line would emphasize the points and angles of the face.

3. A person with a large or poorly proportioned waist line should wear the things that will not make her conspicuous at the waist, and also vertical lines and a loose costume. A wide belt and conspicuous decoration at the waist emphasize the width and should be avoided by the stout and utilized effectively by the tall, slim women.

4. A woman with a short, fat arm should avoid wide, flowing sleeves or conspicuous trimming on them, which tends to give width to the whole figure. A plain sleeve, not too tight, which tends to increase the long line of the body, would make a stout person look thinner and increase the height. A tight sleeve tends

to make the arm look larger, as it shows very distinctly the stout outline. Transparent fabrics also tend to make an arm look thinner.

Stiff materials tend to increase the size by projecting from the body, while soft fabrics tend to make one look thinner by clinging to the body.

Curved lines of soft fabrics made into a costume tend to soften the harsh (straight) lines of the figure and also bring out the finer qualities, hence such a costume is best adapted for afternoon and evening wear.

Horizontal lines, such as one finds in poplins and checks, cause the eye to travel from side to side and leave an afterimage of width, hence making the person look stouter.

Every costume has (1) general and (2) detail lines. The general lines of the costume are the line impressions made by the outline of the costume and the lines of the fabrics (stripes, vertical or horizontal). The detail lines are the line impressions made by the (1) neck, (2) waist line, belt or finish at the waist, (3) sleeves and trimmings.

The neck line is formed by the outline of the costume at the neck and may be (1) round, (2) oval or U-shape, (3) square, or (4) V-shape.

Dress. We have seen in the previous chapter the necessity of correct dress. The problem of good dressing is to discover a person's two or three fine points, bring these into relief, and conceal the various deficiencies. Happy is that woman who, acknowledging her deficiencies, constructs her dress to emphasize her finest points. She will make the most profound impression, and unconsciously and unintentionally become the merchant's best advertising medium.

The first thing to be considered by a woman of taste in selecting a dress, is the general effect as a whole, and this can only be secured properly by the study of the form, height, breadth, length of waist, carriage of the head, gait, and general deport-

ment. After this follow color, line, mass, trimmings, ornaments, etc. Many women dress as if the face was the only consideration, yet we see the face once where we see the whole person twenty times, as across a room or the street. Again, some dress as if they were a half-length portrait, not considering what is below the waist. A short woman too often thinks she looks taller for wearing a very long waist. So she does in her short mirror, forgetting that what she adds above she cuts off below, and were she to look into a long glass, she would see that by apparently shortening her limbs she loses far more height than she gains by lengthening her waist. The shorter the woman, the shorter should be her waist.

It does not take an artist to see that the natural form is beautiful, with its graceful curves, its perfect proportions, and its flexibility of motion. It is always a mistake or a blind and willful disregard of the laws of Nature, when a woman dresses in defiance of the laws of beauty. The loose, soft waist which the "dress reformers" urge, is no less hideous than the French corset which ruins the figure. It does not serve its ends, as it conceals all the beautifully rounded curves which should be emphasized. The close-fitting dresses, defining the graceful lines of the hips and falling in slightly below the knees, are strictly in accordance with the natural lines of the body, and are far from ugly on a well-proportioned figure. Dress should not alter the natural shape, nor the general effect of the physique; its should seize upon the prominent beauties of figure, complexion, carriage, style, and by dexterously making the dress harmonize with these an effect is produced which is marvelous. The designer or costumer creates the pattern dresses, orders materials and trimmings to be manufactured from his own designs, and superintends in person all the finishing details of a toilette, such as the shaping and trimming of a corsage, the tying of scarfs or ribbons, and the placing of artificial flowers on the skirt. He excels in combining colors, sweeping aside piece after piece of silk till the exact union of hues that is at once the most

effective and most artistic has been reached. If stout ladies would only be content to give themselves the advantage of their roundness, and not attempt to disguise themselves as slender women (a most apparent subterfuge) they might pass for artistically dressed women. The beautiful arms and hands and neck, which always accompany stoutness, being the finest points, should be advantageously displayed by wearing close-fitting garments, but with the long lines of grace prevailing from the shoulder to the foot.

QUESTIONS

1. How are most of our impressions formed?
2. (*a*) What is psychology? (*b*) What is meant by the expression psychological effect of line, beauty, and luster?
3. What constitutes the "lines" of a costume?
4. What are the artistic effects of the line of the costumes?
5. (*a*) At what distance should the outline be perceived? (*b*) Explain the meaning of silhouette?
6. Why is the outline of a costume important from a style point of view?
7. Explain how the proper lines of a costume may make (*a*) a thin person look stouter, and (*b*) a stout person look thinner, (*c*) a short person look taller, and (*d*) a tall person look shorter.
8. (*a*) What is meant by the expression after-image? (*b*) Explain how it takes place.
9. Why are after-images or optical illusions valuable in costuming? Explain with sketches and reference to fabrics.
10. (*a*) What is meant by the expression "good proportion"? (*b*) Give examples of good proportions.
11. What are the psychological effects of straight lines and curved lines? (*b*) Explain why we have these effects.
12. (*a*) What is meant by Nature's pattern book?
13. (*a*) What is meant by the expression "lines in opposition"? (*b*) What is the effect of lines in opposition in clothing?
14. State the effects of lines in opposition in clothing.
15. (*a*) What is meant by "transitional line"? (*b*) State the effect of transitional lines in clothing.
16. (*a*) What is meant by the expression "Variety in design"? (*b*) Why is variety in design an important factor in clothing?

17. Summarize the artistic effects of different types and kinds of lines as shown in costumes.

18. Explain the meaning of the expression "beautiful costume."

19. What are the principal characteristics or laws underlying beautiful costumes as well as beautiful objects in general.

20. Describe the meaning, with illustrations, of unity.

21. What is meant by harmony? Explain in terms of clothing we wear?

22. What is meant by rhythm? Explain in terms of clothing and costume different forms of rhythm such as (1) repetition, (2) opposition, (3) gradation, (4) transition, and (5) radiation.

23. What is meant by proportion? Explain in terms of clothing.

24. What is meant by the term "subordination" as applied to clothing?

25. (*a*) What is meant by the expression "balance" as applied to costume? (*b*) Describe in detail the different kinds of balances.

26. State the importance of artistic clothing.

CHAPTER III

COLOR IN DRESS

Importance of Color. It is said that line is the intellectual quality of a costume; if this is true, then color is the emotional quality of dress. The color of a costume or fabric either appeals to us or displeases us more than any other element that enters into it. Since color is one of the some important elements in a costume, it is important for us to know how to choose colors harmoniously and effectively. There are a few who are naturally endowed to select proper colors. However, some of us acquire this ability through practice and experience. In order to do this successfully we must observe the personal coloring and the effect of color upon the wearer, and then learn to apply the theory of color.

The clothing we wear may be composed of a variety of fabrics, such as cotton, wool, mohair, silk, rayon, linen, tinsel, in whole or part. The attractiveness of our clothing is due more or less to the appearance of the fabrics. To illustrate: cotton is dull; wool has depth of color; mohair has more luster than wool; silk has a deep pearly luster; rayon has a metallic luster, etc. In order to enable us to know why such differences exist among fabrics, it is necessary to know the action of light on these substances.

When a ray of light strikes an object like a piece of cloth it may be, in whole or part, (1) reflected regularly, (2) reflected irregularly, (which we call diffusion), (3) absorbed, (4) pass through the material without any change, as in the case of window glass. In passing through the material the rays are bent and separated into a " play " of colors called dispersion or analysis of the ray.

In order to understand the luster of different fabrics, it is neces-

sary to have a clear conception of (*a*) *reflection*, (*b*) *absorption*, (*c*) *transmission*, and (*d*) *refraction* of light applied to fabrics.

Sheen Due to Grain. The direction in which the rays of light strike an object or material and are reflected back to the eye has a great deal to do with the kind of luster called *sheen* that results as fabrics absorb part of the rays and reflect others. For example, if two pieces of the same napped or pile fabric are placed side by side, one in the direction of the grain and the other in the opposite direction, one will notice a difference in shade due to the difference in direction in which the cloth has been brushed and finished. Hence great care must be exercised in cutting napped fabrics to see that they are placed together so that the nap runs the same way, otherwise the finished costume will have the appearance of being composed of fabrics of different shades — light and dark.

As far as possible it is desirable to have all woolen goods (including panne velvet, which is made of mohair) cut so that the nap runs down, while the silk and pile weaves of silk plushes and velvet should be cut with the pile running up.

If the surface is uneven but smooth in parts, the light is reflected at all angles, and is called *diffused light*. Light in a store where fabrics are displayed should be diffused daylight, while in a ballroom a softer light, rich in yellow and orange tints, is preferable.

Reflection. We see objects such as clothing by reflected light, that is, by the light from the sun or an illuminated object, which strikes the material and is reflected to the eye. If the surface is smooth, the rays are reflected at the same angle at which they strike the surface, and appear bright or " shine," that is, they have luster, as silk and rayon. If the surface is porous, the rays are not reflected regularly, but at different angles, and the surface appears dull, as in the case of cotton. Since the surface of fabrics differs in smoothness it is natural that we should have different degrees of reflection, hence different degrees of luster or brightness. Luster varies with the smoothness of the surface and composition of the fabric.

Luster affects to a remarkable degree the appearance of the person wearing the costume. A high-lustered fabric makes one appear larger because it reflects more light and leaves a very distinct after-image, or sharpens the outline. While a dull-lustered

fabric makes one appear smaller by reflecting less light from the outline of figure, leaving a duller after-image.

Lustered fabrics appear in different degrees with different style periods or tendencies. Luster in fabrics or threads is often spoken of by stylers as *sheen.*

Refraction. Light may pass through a substance like window glass without any change. On the other hand, light may strike an object, and as it passes through the material the rays may be bent, (called *refraction*), and separated into different colors, called the component parts of the light that passes through. This is the reason why we notice the display of many colors on pearls and some other substances.

Transparent, Sheer Fabrics. If the light passes through a fabric like a voile, even if a misty view is displayed, it is called *transparent.* On the other hand, if light passes through a thin fabric like georgette crepe and thin crepe de chine it produces an outline or shadow of the figure underneath and it is said to be a *translucent* or semi-transparent or sheer fabric. If light fails to pass through a serge, the fabric or dress is said to be shadow-proof or *opaque.* The thinness of the fabric determines the degree of shadow, and the thickness of the fabric determines the degree of shadow-proofness.

Absorption. When light passes through a fabric it may be absorbed in part and the light that leaves may be changed accordingly. This is called *transmitted* light, as compared to reflected light. Notice the effect of light that passes through a highly-colored silk fabric.

When rays are absorbed by a material (since rays are a form of energy) they are transformed into heat by the fabric or the color. Some materials, like black, absorb more rays and form more heat than white fabrics. Hence, dark fabrics are warmer than white or light-colored clothing.

Effects of Material on Color. The effect of material on color is dependent in a large degree on the composition and finish of the material, and on whether the surface is smooth or rough, as will be explained later. The color of a textile fabric or costume depends on its nature or composition — whether silk, cotton, wool, etc. — and also on the light in which it is viewed.

Look at pieces of silk, rayon, cotton, woolen, and worsted of the same color. You will notice that while all have been dyed with the same dyestuff each one has a different tone, due to the difference in reflected light, which, in turn, is due to the difference in the smoothness of the fibers. The silk coloring has a brilliancy and compactness due to the pearly luster of the fiber. This luster is due to the fact that the fiber of silk is partially transparent and casts glassy or pearly rays when light falls on it. Rayon, on the other hand, has a metallic brilliancy because the fiber is smoother than silk, with a surface like a piece of metal. Woolen colorings have a unique depth and saturation of hue. This is due to the wool fiber, which is solid and opaque in the center, although its outer side consists of a large number of semi-transparent scales of large or small size uniformly arranged. These scales reflect light with a small amount of refraction and give a distinct and peculiar lustrous appearance.

Wool always appears rich in color because it has depth or penetration. The lustered fabrics like silk and rayon give off the color due to the great reflective power, while cotton appears dull because it fails to reflect or refract to the same extent.

Worsted clothing on the other hand, while made of the same composition as woolens, appears lighter and smarter than the woolen, due to the fact that the fibers are parallel and reflect the light more regularly than the woolens in which the yarn is uncombed and uneven. Wool has a fullness and a depth of color that is lacking in the lustrous, brilliant, rich silk. Cotton coloring, while decidedly firm and clear in effect, is not lustrous but raw and dull; though it may appear well, it is deficient in color, lacking the warmth and richness that we find in wool and silk. A worsted fabric has more luster than one of woolen because it is smoother.

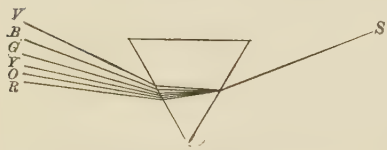
The formation of color on textiles is very important and the explanation commonly used is called the *theory of color*.

Composition of White Light. Most of the light we have during

the day is sunlight, which is a pure white light. If we separate this white light into its component parts by allowing the light to pass through a triangular prism, we shall find it is composed of the standard colors of *red, orange, yellow, green, blue, indigo,* and *violet.*

The reason white light can be separated into its component parts by means of prism is due to the fact that sunlight comes to us in the form of waves vibrating at different rates. As the rays pass through the prism they are bent or refracted, and separate because they have different rates of vibration. Each wave length is one color, but when mixed together in a beam (number of rays) they produce white light.

Primary and Secondary Colors. The colors may be divided into three classes: *primary, secondary,* and *tertiary.* The primary colors — red, blue, and yellow — are the fundamental colors because they can not be produced by any mixture of other colors.



SPECTRUM

Formed by a ray of light falling on a glass prism.

Secondary Colors. The secondary colors — orange, green, and violet — may be made by mixing two of the primary colors. To illustrate: (*a*) Green is made by mixing yellow and blue; (*b*) orange is made by mixing red and yellow; (*c*) violet is made by mixing blue and red.

Tertiary Colors. When we mix two secondary colors together we form a group of broken colors in russet, olive, and citrine that are not found in the spectrum, and are called tertiary colors. Of course the tertiary colors contain all of the three primary colors in unequal proportions. For example: (*a*) Russet is formed by combining orange and purple. Note that the red predominates. (*b*) Olive is formed by combining purple and green, and the blue predominates. (*c*) Citrine is formed by combining orange and green, and the yellow predominates.

Colors are sometimes classified as (*a*) *warm colors* and (*b*) *cool colors.* Warm colors are those that we associate with sunlight, while cool colors are those away from the sunlight. Red, orange, and yellow are warm colors, while green, purple, blue, and violet are cool colors.

As we glance over the warm colors, we also note that they always appear more conspicuous than the cool colors and naturally are called *advancing colors*, as compared to the *retiring* nature of the cooler colors.

A person with high color in the complexion naturally should wear cool colors, while a person with a sallow complexion should wear warm colors.

Use of Primary Colors in Costumes. No color should be used in clothing in its full intensity since the primary colors are very strong and should be used only in small bits of trimmings. If they are used otherwise they are so bright that they will make one conspicuous.

Contrast of the positive colors such as red, green, blue, orange, yellow, and purple, is too glaring to be in good taste except for military and theatrical costumes and for young people.

Naming of Colors. The colors we find in clothing are often given picturesque names, as Burgundy red after the color of the celebrated wine of that name. The color royal purple was chosen to denote power in ancient times, because it was the finest and most costly dye of the ancients, and was used in coloring the royal robes. It was used at an early date by the Romans as a mark of dignity. But when we come to match colors in clothing, we must have something more definite than the picturesque name.

All colors may be considered as being composed of one or more of the six standard colors in its most saturated (pure) form. We can name a color by determining (1) the predominant tone of the color in terms of one of the above standards, (2) by placing the standard or family name that predominates last and the other standard color that exists, first. To illustrate: the difference between green-blue and blue-green is that the first has more blue in it than the second.

Why Fabrics Are Colored. Since we know that sunlight is a mixture of six standard colors varying in shade as they blend

into one another, we are able to understand why fabrics are colored. Different materials have the power to absorb some of the rays of colored light and they reflect the remainder. To illustrate: If a dress appears blue in daylight it means that all the rays have been absorbed except blue, which is reflected. A textile that looks white, like a bleached linen, reflects all the rays of light. A black taffeta absorbs all the rays of light and therefore looks black. White is the presence and black is the absence of all the essential colors.

Effect of Surrounding Light. We must think of color in terms of the surrounding light. In daylight this is the rays from the sun. Artificial light may be gas or electrical. Electric light is very apt to be too bright and to cause deep, sharp shadows to form. A scheme of color that is harmonious by daylight may be the opposite at night when viewed by artificial light. Dyestuffs owe their property of color to the light that falls on them, and not to the body or substance itself. This fact may be illustrated by allowing different colored lights to fall on the same fabric and watching the colors thus produced. Those colors which fade, or are more or less destroyed by the action of light, air, atmospheric heat and moisture, or under the action of dilute acids or alkalis, as of soap solutions in washing, are called *fugitive* colors to distinguish them from the colors that will resist these actions.

Dyes. Color is given to the various parts of the costume by means of a dyestuff or pigment. The dyestuff may be added to the fabric by soaking it in a water solution of the dyestuff, which is called *dyeing*. Or the color may be added to the fabric by means of printing on rollers, in the form of a paste of starch and dyestuff. This method is called *printing*. Sometimes the color is natural, that is, it is found in the raw material, as pongee, silk, or skins of animals. Light, air, perspiration, and washing agents have more or less effect on the color in a fabric. If a fabric does not noticeably lose its color within thirty days after exposure it is said to be *fast*. Of course the degree of

fastness varies with the material, the kind of dyestuffs, and the use to which the fabric or costume is subjected.

The vegetable-fiber fabrics, as cotton, linen, etc., do not hold the dyestuffs as well as the animal-fiber fabrics — silk, wool, etc.

There are cotton dyestuffs called *vat* colors, like indigo blue, that are very fast on cotton fabrics under all conditions. There are also dyestuffs that are fast to washing, etc.

Black and White. *White* is the mixture or combination of all colors. *Black* is the absence of color. Therefore, black and white are sharp contrasts, and although sharp contrasts in color are not usually recommended, they can often be worn together. White makes a splendid contrast with black.

Black is one of the most becoming tones a woman can wear, and has always been used for this reason. Black with pastel tints or tones can be worn by practically all women. While all black is too solemn for spring, in combination with checks and striped materials it is exceedingly striking. While black is a stylish color in costumes worn in the city, it is decidedly out of place as a color for clothes in the country.

Black added to a color makes it less bright, although deeper. White, on the other hand, when added to another color makes it appear lighter, but pale. Gray colors, particularly neutral gray, when mixed with another color, usually make it appear deeper, but purer. Hence *neutral colors* are used for effective backgrounds.

Pastel Tints. A pastel tint is a tone that is lighter in value than the normal color. A normal color that is thinned or thinned and greyed is a tint. While these tones are lovely, they can not be worn by certain types, as they are too delicate and fragile. Examples: pale rose, pink, nile green, beige, light blue, lavender and wistaria.

Brown a Dependable Color. Brown is a dependable color and comes in shades to suit every type. It is especially becoming to brown-eyed people, just as tans are particularly suitable for the hazel-eyed. Golden shades, as well as the deep tones, are good for the black-haired girl with clear olive skin and color in her cheeks. Dark-skinned blondes should choose only the dark browns. Mature women with grayish-brown hair and medium complexions will look well in seal and chestnut, but not in tans.

Some shades of *brown* are difficult colors to wear. It absorbs the pink from the complexion and leaves it dead looking, unless the complexion is very clear, with red cheeks. If the complexion is good, all shades of brown may not be good with the hair.

Lavender can be worn by very few people. It brings out the yellow in the skin. A pink lavender or orchid is easier to wear than a blue lavender.

Tan is a very difficult color to wear. It brings out the yellow in a sallow complexion. It makes a tan skin look darker, does not go well with an olive complexion or with a sun-burnt skin.

Purple. The red shade of purple is most becoming to the brunette, but the shade is better for a fair skin.

Red and orange are most becoming to the brunette. These, by contrast with the dark skin and hair of a brunette, show with great advantage to themselves, while they enrich the hue of the dark hair.

Color Values. We must know the units of measurement of color in order to compare color values. Color is measured in three ways and expressed technically by the following terms: (1) hue, (2) value, (3) intensity. *Hue* is the variety of color that is produced by the addition of a small quantity of one color to another. To illustrate: blue-green is a hue formed by the addition of a little blue to green. The number of hues of a color is limited. *Value* refers to the amount of luminosity in the color, that is, whether it is light or dark. If it is the former, we say that the value is high; if the latter, low.

Tint and Shade. The value of a color is measured by the amount of light in it. A *tint* is a color lighter than the normal color. The term " tone " is a broad term and refers to shade, tint, etc. Tint is applied to the normal colors when modified with white or increased light, that is, higher in value; while a *shade* is nearer black than normal color, that is, it is low in value. Example: one-fourth neutralized yellow is a shade of normal yellow, yet it may be nearer white than black on the value scale. Black, white, and gray do not have any definite tone; hence they are called *neutral colors.* It is difficult to

match them. The neutral tones on durable fabrics are valuable when made into costumes and are adaptable to street and business wear. On the other hand, the light colors and thin fabrics are more appropriate for gay occasions because they suggest a feeling of cheer better than the dark colors.

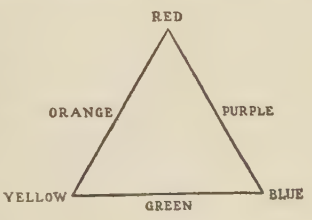
Tones and shades of colors are very important. A difference in tone may add to or destroy the beauty of the person wearing the costume. For example, a brilliant blue in the costume may make the blue eyes of the wearer colorless, when a soft tone of blue would give added beauty to the person by increasing the attractiveness of the eyes or complexion.

Instead of saying that a blue-eyed, light-haired girl might wear blue, say that she might wear certain tones, but not all blues. The same is true with a dark-haired, brown-eyed girl. She can wear tones of blue.

This contrast may be obtained through difference in hue, in value, or in intensity. For example: a person who wishes to draw attention to blue eyes may wear (1) a hue near blue on the color wheel, *i.e.*, blue-green or blue-violet, (difference in hue), (2) a greyed blue, (difference in intensity), (3) a blue lighter than the eyes (difference in value).

The *brilliancy* of a color means the amount of strength in it and is often expressed technically as the *intensity*. To illustrate: if we wish to determine the intensity of red, we compare the color with a standard red, which is the bright red of the spectrum.

Intensity is often used to express the strength or purity of the color. If the color is as brilliant as possible, we say that it is strong; on the other hand, if it is subdued, we say that it is dull or weak. A practical way of subduing colors may be remembered from the adjoining diagram where the colors are placed on the sides and vertices of the triangle.



The opposite colors of opposite sides of the triangle are complementary to each other. That is, red is complementary to green, yellow to purple, blue to orange. If we wish to soften the intensity of any color, we may combine it with its complement.

On the other hand, if we desire to subdue a color by *association*, we may put a nearly related color with it instead of its complement. To illustrate: if we desire to subdue a too yellow face, we may use yellow trimmings or gold ornaments, but never purple.

Brilliant, intense colors stimulate and please us for a while, but we soon tire of them. They soon fade, spot, and become shabby. On the other hand, neutral colors are less stimulating and less conspicuous, and consequently do not become tiresome.

Neutral shades of different colors in combination appear flat and not attractive. Different hues of the same color will change each other slightly. Red and purple, red and orange, blue and green should not be used together except to brighten each other.

How to Measure a Color. When we look at a color, we first determine its name (hue), then its value (high or low), and last its saturation (intensity). One may judge color values by comparing a color with the following line. We may consider a line with white at one end, black at the other end, and gray in the middle, the warm colors to the left and the cool colors to the right of the center line — gray. Note where the color would come in this line.

White Yellow Orange Red Gray Green Blue Purple or Violet Black

Surface and Color. The surface of the material has a great deal to do with the color saturation. For example, a smooth surface like rayon reflects the whole light at the same angle, while the rough surface of cotton does not give the same degree of reflection; hence, the cotton gives a different tone.

Thin and thick layers of the same medium give different hues.

Compare a thin velvet with a thick velvet. The thick velvet with a heavier nap gives a different degree of reflection.

Color Effects. While the untrained may be satisfied with the simple primary colors, artists and others who appreciate beautiful things desire color effects that are more elaborate and complicated and more pleasing than simple colors, that is, harmony of colors. For example, if we visit art galleries or large churches we shall find pictures and stained glass windows representing saints and characters of the Bible. Notice the color of the garments — red and blue — contrasting one primary color, red, with another primary color, blue. Such a color effect is called contrast of color, or contrast harmony, and is very effective.

There are combinations or groups of color that appear pleasing to the eye, or as we say, in harmony. The combinations may be technically named as follows: (1) *Dominant harmony*, (2) *associated or analogous harmony*, (3) *complementary harmony*, (4) *contrasting harmony*, (5) *complex harmony.*

Dominant harmonies are combinations of tones of the same color, such as light and dark blue. These color effects are very popular and give an air of distinction. The only objection to them is that they may become monotonous. *Analogous* harmony consists of combinations of colors that are related to each other in the spectrum. To illustrate: blue, violet, and blue-violet form a very common combination illustrating this principle. That is, since there is an element of blue, there is slight contrast, hence the interest as described above. If complementary colors are in combination, there is a chance for contrast, which shows *complementary* harmony. Blue-green with a dash of red-orange makes a pleasant combination illustrating complementary harmony.

Placing a combination such as rose with a background of gray is a very common setting, illustrating the principle of contrasting harmony. Black or white, gold or silver, with a color also illustrates contrasting harmony.

When a number of colors are chosen so that no one hue may be seen in all of them, a combination, called complex harmony, is formed that is very attractive. This complex harmony may be illustrated by combining red, orange, blue, violet, yellow, and green.

Colors in Nature. Colors in Nature are harmoniously arranged — white light is made by a wonderful unity of all the other colors. Note the gradation of light and shade in the sky, hill, valley, lake,

etc. The best harmonies of color are found in Nature — in the sky, cloud effects, birds, minerals, animals, and flowers.

The beautiful cloud effects and colorings vary in different parts of the world for the following reasons. Little specks of dust in the air absorb part of the colors of the sunlight and throw off the rest. The part absorbed gives up the exquisite shades of blue which make our sky so beautiful. Sometimes the blue is lighter than at other times because of the condition of the specks of the dust in the air and the angle at which the sunlight strikes the particles.

Shades and Shadows. When light strikes a fold or piece of cloth that is opaque it is turned back in the direction from which it comes, and the part on the other side of the material which intercepts the light goes into shade and shadow results. In other words, the shadow of the cloth is produced by cutting off one or more light rays. Shadows in the day are not so dark as shadows at night because there are so many reflections of light from other sources.

Good Coloring. The principles of *proportion*, *contrast*, *rhythm*, *harmony*, and *unity* apply to color as well as to design. This means that color must be properly balanced. Therefore, if colors differ in area, they must make up this difference in intensity in order to be in good proportion. In order to create interest there must be difference in either hue, value, or intensity to form proper contrast. Repetition of color produces a rhythmic effect that may be pleasing. Finally, all colors must be properly blended and balanced according to color harmony in order to give unity to a design.

We should remember the following facts in considering proportion, etc., of colors in wearing apparel:

I. In order that color may be interesting it is necessary to have different areas of colors. The same areas of color appear monotonous. To illustrate: equal areas of dark and white are not as interesting as large dark areas and smaller light areas. Hence we should select areas according to the following rules:

II. Dark color values seem to appear heavier than light ones, hence dark clothing, etc., should be at the bottom (skirt) while the light color values should be at the top (blouse) to preserve

the proper proportion in color. Otherwise the proportion in color may appear top heavy.

III. Neutralized colors may be used in large areas and intense colors in small areas in order to retain proper proportion.

IV. Complementary colors tend to intensify each other, hence great care should be exercised in selecting colors to harmonize proportionally with the skin. Colors of wearing apparel that oppose the dominant color of the skin will naturally emphasize the color of the face.

Psychology of Color. The action of color on the mind, like the action of lines, is explained by the science of psychology. In other words, the ideas, emotions, etc., aroused in the mind by color are called the psychological effect of color. The relation of the eye to color sensation has been the subject of much investigation, and the following theory of color vision is accepted. There are three primary color sensations produced in the eye: namely, those of red, green, and violet. The theory is that the retina is made up of three sets of nerves, one sensitive to red, one sensitive to green, and one sensitive to violet. When all are stimulated at the same time, the result is the sensation of white light. When only one or two are stimulated, the result is colored light. These nerves differ in sensitiveness in different people, hence we find some are weak in detecting or matching color. This is called *color blindness*. Some people can not distinguish colors and cannot distinguish shades.

Each color arouses in our mind association of ideas. While these ideas may not be the same for different persons, nevertheless there are certain tendencies aroused in our minds by each color. To illustrate: Red has always been associated with fire, excitement, passion, and revolt, and also associated with the devil or the dragon. Blue and black are associated with pessimism and act as depressents. Note the expression, " He is as blue as ink." Black Friday was a day in the financial world. Pink is associated with optimism, as in the expression, " A rosy point of view." Purple is a sign of power, as " royal purple."

Complexion. Complexion is a term we use referring to the coloring of the face, hair, eyes, and neck. This coloring is due to the

coloring substance or pigment in the eye, skin, and hair, and to the influence of the weather, hereditary causes, etc.

Speaking broadly we often think of two distinct types of complexion: (1) Light hair and blue eyes, and (2) dark hair and dark eyes. Of course there are many shades or degrees between these two types which we shall consider later, but every one may be roughly classified as either dark or fair. The color of fair hair is the result of a mixture of red, yellow, and brown, either tone being more or less prominent. Light or fair hair may be considered as a pale, subdued orange-brown. The color of the fair skin is similar except that it has a lower tone, with red in parts of the cheek. The blue of the eyes forms a contrast harmony with the skin.

On the other hand, the dark eyes, eyebrows, and hair of the dark type, contrast in tone and color with the skin. The colors adapted to the light and dark-hair type are those which produce contrasts.

As the body grows in age, the color of the hair, skin, etc., changes accordingly. To illustrate: One's complexion changes from childhood with the smooth, pink-and-white complexion of youth to the yellow (sallow complexion) and wrinkled skin of age, and the hair becomes streaked with gray. But in any period there is always a proper harmony between the color of the hair and the color of the skin. Therefore, any attempt to change the color of the hair to make it appear younger, (such as dyeing the hair), is quickly discovered because it brings out the age more sharply by making the face ghastly. It accords best with nature that as we grow older we should begin to wear darker colors or shades.

The Skin. The skin, especially of the face and neck, reflects more or less the colors that are near. The texture or smoothness of the skin determines the degree of its reflective power. A smooth skin reflects the colors more than a coarse, granular skin. This fact should be considered in selecting colors for an individual.

There is a wide variety of skin texture and coloring. There is a great difference between the skin of a baby, the skin of a young person, of a mature person, and of an old one. There are racial differences that show plainly in the quality and texture of the skin. It is not only in color that skins differ.

One of the most effective ways of determining the proper color of clothes for a person is to note the color of the individual. One's

color is determined by that of the hair and eyes and the complexion or color of the skin. A person may have " much color " or " little color." If she has much color, then the color of the fabrics should be selected to subdue the color of the individual. On the other hand, if the person has little or no color, the fabrics should be selected to give color to the face.

The purpose of clothing is to make one more pleasing and attractive by bringing out the artistic points of the ideal human form. This is done by means of the proper color as well as the proper lines. Since each person's skin, eyes, hair, etc., differ in color we must have the proper color in the clothing to harmonize with the color of the skin, eyes, and hair.

The most effective method of selecting the proper color and texture for your costume is to place the fabric about your shoulder, as shown in the picture, and note, as you look in the glass, the effect of the different fabrics on your face, since that is the most conspicuous part of the body.

HOW TO CHOOSE

Since the psychology of color expresses personality, characteristics, and habits, the designer always considers these when he plans a costume.

Color in dress affects the wearer and those with whom she comes in contact. Everyone is influenced by the colors they wear. For example, there are certain colors that make us appear gay because they stimulate us. One's desires in colors are due in large measure to (1) inheritance, (2) education, and (3) condition in life. People of the warm countries, being influenced by the bright colors of their environment, crave the strong colors more than those in the cold countries. The untrained and the young prefer the bright colors, but as we grow older and become experienced we prefer the shades and tones that appeal to the experienced.

Colors for clothes should be made to suit skin tints, but when a figure is too broad it is necessary to modify this selection. In other words, colors that are becoming to a slender, short type are not

always right for the woman of similar complexion who is short and thick-set. To illustrate: Navy blue is a color that will make a short stout appear thinner and is always attractive regardless of changing styles for different colors.

Dark colors such as dark blue, dark green, dark brown, dark gray, and dull surfaces tend to make one look thin, while light colors and bright surfaces tend to make one appear large. Therefore, stout people should use dark colors or neutral shades and dull-surfaced fabrics of inconspicuous design.

Red denotes intensity and is a striking color for the vivacious brunette or dazzling blonde. On the other hand, yellow expresses light and cheerfulness, so it can be used, especially in the neutralized tones, with any type. Blue gives coolness, distance, and reserve. Hence it is an admirable color, especially in the dark shades, for a business costume. Green, the color of the grass, is refreshing, restful, and cool, and in the light shades is excellent for summer. Brown is a popular color because it is retiring and sedate, although not dismal or depressing. It is a mixture of crimson and ochre, with black as a basis. When russet and olive are mixed a hue called maroon is formed. Notice that there is an excess of red.

Mourning Colors. — The colors used in mourning by different nations show how different colors are interpreted. The custom of showing grief by outward signs is universal. In the United States and Europe the usual color for mourning is black; though white is mixed with black for ordinary mourning, and is occasionally employed at the death of children and maidens. In China, white is invariably the color adopted for mourning; in Turkey, blue or violet; in Egypt, yellow; in Ethiopia, brown. Persia adopts pale brown; Burma, yellow; Tartary, deep blue; Asia Minor, sky blue. The Spartan and Roman ladies mourned in white; and the same color prevailed formerly in Castile on the death of their princess. Kings and cardinals mourn in purple. Each people has its reasons for the particular color worn: white is supposed to denote purity; yellow that death is the end of human hopes, and flowers when they fade become yellow. Brown denotes the earth, whither the dead return. Black, the privations of life, as being the privation of light. Blue expresses the happiness which it is hoped the deceased will enjoy in the land beyond the skies; and purple or

violet, sorrow on the one side and hope on the other, as being a mixture of black and blue.

Value of Color. Well-chosen colorings in dress add greatly to the pleasures of life and have, no doubt, an effect on the health and spirits of cultured people. For example, it has been found that colors like primrose yellow, sky blue, spring green, apple-blossom pink, the colors of spring, are the colors of recuperation and very healthful to nervous people.

We must bear in mind that the emotional effects or sensations and thrills produced by color depend largely on the setting and circumstances and also on the style and fashion of the occasion of using the color. To illustrate: dark green and pink would be considered an excellent combination in the flower garden but would not be desirable in a costume. Hence color combinations that we frequently see and admire may not be always suitable as combinations of color for clothing.

Color Fatigue. If the eye looks for a quarter of a minute at a dark object against a very bright sky and then the view is transferred to another part of the sky, the dark object will appear brighter because there is an after-image of brightness remaining on the retina. We see other effects like the following resulting from the after-image on the retina, in turn due to retinal fatigue:

(*a*) A bright silk background is used in showcases in displaying cotton goods. The after-image of the luster of the silk is carried over to the dullness of the cotton and makes it appear to advantage.

(*b*) If brown is placed side by side with light red, the brown will appear greenish; and if purple is placed side by side with red, the purple will appear more blue, due to the fact that complementary colors in contact tend to enrich each other by after-images.

(*c*) The mind becomes tired of the same color or the reflection of the same color due to the sensitiveness of the nerves of the eye. In fact, a chemical change takes place in the eye when exposed for a long time to the same color and gives us a sense of mental repulsion. A new shade in color is always refreshing, while the color of last year appears flat and stale. We often note that the change in colors is a healthy one.

Line Effects. The line effect of clothing is formed also by difference in color, texture, luster, etc. The line or shadow may be very slight, yet produce a favorable or unfavorable part in the design. The retina is so very sensitive that difference in color or difference in texture of a fabric produces the effect of an after-image of a line. To illustrate: color at the extremities of the body — head, feet, arms — gives an elongation or lengthening after-image. When a costume is made of two different materials or finishes, the junction conveys an after-image of a line in the direction of the fabrics. Short sleeves give an after-image of a horizontal line, which gives an after-image of breadth or width.

Fashion in Color. Each season we find new ideas or fashions in color, as well as new design and materials in costumes. These new ideas of colors are simply new shades of the familiar colors. From both an attractive and artistic point of view it is absolutely necessary that every part of a costume should harmonize and should be selected with regard for every other part. In order to do this successfully, representatives of all the fashion industries — cloth, dyestuffs, shoe and leather, hosiery, millinery, and garment manufacturers — agree six months ahead of time on colors as well as styles. These colors are of two types — staples and novelties. The staples are those always worn, such as navy blue, seal brown, lavender, etc. Then in addition a certain number of special colors, according to the style tendencies, are also agreed upon, and these colors will be promoted. From these staples and novelty colors five different cards of colors, called seasonal cards, are made each year: one each for silk, shoe and leather, millinery, hosiery, and woolens. Each color has a number, cable number, and a name, and they never change. In this way a color name is standardized. Up to a few years ago there were as many as forty-two blues called navy. Since colors have been standardized three navy blues are the ones selected, each designated by a number.

As a result of this method of standardization of color the cost

of manufacture is reduced so that it is possible for one with a small salary to be smartly and harmoniously dressed by selecting one dominant color for her wardrobe and then selecting each detail with that color in mind. This is possible at present because the shoe manufacturers know what the hat and garment producers are going to do through the interlocking committee on color and style.

Ensemble. The idea of having all parts of clothing harmonize (often spoken of as the ensemble idea) became the style in 1927. This assisted many who had no sense of color grouping. Now, a woman of poor taste in color can select very easily the proper hat, stockings, shoes, etc., with the assistance of the saleslady who has been drilled in the proper combinations.

Color and Line in Costume. The costume in which a woman feels, looks, and acts best is one with a perfect combination of color and line. Lines are pretty well taken care of for the average woman by dress merchants, but color is something the woman has to determine for herself.

Line, of course, has much to do with the outline of the form (silhouette), its slenderness or bulk, but where line has one duty to perform, color may accomplish its magic in different ways, such as adding glints to golden hair, clarifying a skin, supplementing the brilliancy of the eyes, and so on.

While color charts may serve as guides, they cannot be accepted as infallible pilots. The difficulty with color charts is that women have to be classified into types, and the generalization is too broad to take account of all varieties of pigmentation, hair shades, and eye colorings, so the perfect test rests with the individual in suiting color to her own particular skin, hair, and eyes.

Self Style Analysis. One should make a style analysis before selecting a costume. This may be done by looking in a triple mirror and noting very carefully one's silhouette, that is, the height, width, coloring, etc., and record mentally:

1. Strong and weak lines in contour, that is, the lines that are pleasing and those not attractive.

2. Length and breadth and compare them with the standard form.

3. The proportion and balances of the masses compared to the standard form.

4. Coloring of hair and complexion.

5. Personality — disposition.

Then one may intelligently determine the kind of materials and construct her design. While it is impossible to change the figure so as to make its proportions those of the ideal figure, one can be made to appear like the normal figure by emphasizing certain lines of the costume and minimizing other lines.

Apply the knowledge of the theory of light and color harmony to the personal coloring of oneself or the one under consideration and decide as follows what she can and cannot wear:

1. Decide on the personality and size of the person. Make note of the most pleasing features — hair, complexion, and eyes — and then make them conspicuous by emphasis with color and line. Since the eye is the center of the glance in conversation, it is only natural that we should select always colors that will bring out the color of eyes. Remember that red denotes intensity and may be used effectively for the vivacious brunettes and dazzling blonds. On the other hand, yellow expresses light and cheerfulness and may be used. The neutralized tones of yellow may be used by all types.

2. Blue, the color of the water, conveys an impression of coolness or reserve, and may be used for business costumes. Neutral tones in costumes made of durable material should be used for street and business.

3. A street costume should always be selected for color, as it will be seen by the strongest light.

4. Light colors should be used for festivals as they convey cheerfulness.

This idea of style analysis is used in many large stores. To illustrate: one store has a member of the style consultant's staff who, when called upon to advise a customer, studies her

figure, hair, and complexion, and then offers authoritative information on the most suitable of the new modes. In the selection of accessories she will be found especially valuable. She knows the correct hat, the suitable shoe, and harmonious glove and hosiery for each type, as well as other important details, such as the pocketbook and boutonniere.

QUESTIONS

1. Why is color important in clothing?
2. What is meant by the expression (*a*) sheer textiles, (*b*) transparent, (*c*) translucent, (*d*) opaque? Name several textiles showing these qualities.
3. Explain the importance of (*a*) reflected, (*b*) refracted, (*c*) transmitted light in textiles.
4. (*a*) What is meant by the grain of the cloth? (*b*) Why is it necessary to have matched fabrics with the grain running in the same direction?
5. Explain the theory of light.
6. Tell the difference between (*a*) primary and (*b*) secondary colors, and (*c*) tertiary colors.
7. What is meant by the expression (*a*) warm colors, (*b*) cool colors? Give examples of each.
8. Tell the difference between (*a*) advancing colors and (*b*) retiring colors.
9. What are the advantages and disadvantages of the use of the primary colors in clothing?
10. What is the simplest method of naming colors?
11. (*a*) Describe briefly the meaning of pastel colors. (*b*) What objection may be raised to the use of pastel colors in clothing?
12. What is the difference between (*a*) white, (*b*) black, and (*c*) gray. State the advantages and disadvantages of each.
13. Explain why some textiles are red, others are black and white.
14. Describe the artistic value in clothing of (*a*) red, (*b*) brown.
15. In a general way, state the colors best suited for (*a*) youth, (*b*) elders.
16. What effect has material on colors?
17. Compare the artistic value for clothing of (*a*) wool, (*b*) cotton, (*c*) silk, (*d*) rayon, and (*e*) linen of the same color.
18. What causes worsteds to have more luster than woolens?
19. What effect has surrounding light on the color of textiles?
20. What causes shades and shadows in fabrics of costumes?

21. Explain why the principles of (*a*) proportion, (*b*) contrast, (*c*) rhythm, (*d*) unity, (*e*) harmony apply to the coloring of design in textiles.

22. (*a*) What is meant by color values? (*b*) How is color measured?

23. What is the difference between (*a*) tint or tone and (*b*) shade?

24. When we speak of neutral colors, what do we mean?

25. Describe the difference between brilliancy and intensity of a color.

26. How may one (*a*) soften the intensity of a color? (*b*) Subdue a color?

27. What are the artistic values in clothing or textiles of (*a*) brilliant, intense colors and (*b*) neutral colors?

28. How may one measure a color?

29. What effect has the surface of a textile on the color of clothing? Explain, with examples.

30. (*a*) Describe the different artistic color effects or harmonies. (*b*) Give examples.

31. Describe briefly how (*a*) colored cloud effects and (*b*) sky blue effects are produced.

32. Explain with examples the principles of psychology of colors.

33. Why do colors of costumes change from season to season?

34. State the advantages and disadvantages from both an artistic and commercial point of view of color standardization.

35. (*a*) What is complexion? (*b*) Name the types of complexion. (*c*) State the coloring of each type. (*d*) Give the best combinations of color for the different types. (*e*) State the reasons for your answer.

36. How may clothing bring out the artistic coloring of the complexion?

37. What effect is produced when one attempts to dye his or her hair to appear younger?

38. (*a*) State the method you would use in determining the proper color of clothes for a person. (*b*) State an effective method of verifying your selection.

39. Why does the eye grow " tired " of colors?

40. Explain the value and purpose of self-style analysis.

CHAPTER IV

HISTORIC OR PERIOD COSTUMES

Importance. The study of Period costumes is important for two reasons:

(1) From a psychological view point. In following the development of styles, we find that they illustrate certain fundamental principles which are modified to meet present conditions and form the basis of the successful modern costume. The reason for this is because the instincts that prompt and control our desires never change, therefore if women have once thought of certain style tendencies as enhancing beauty, they will think of this style idea again as desirable. Hence the need of the study of the history of costume to know what styles appeal to women.

(2) Man's desire to clothe himself has become a necessity. Since " necessity is the mother of invention," it is only natural that man should invent different kinds and types of clothing. These kinds and types are expressed or formed from a variety of materials in different shapes and in different colors so as to satisfy his physical wants (keep him warm), cover his body, and at the same time please his eye. Therefore, we have different kinds and shapes of clothing worn by different nations and classes of people.

Style and Fashion. In order to distinguish the different kinds and shapes of clothing we use the terms " style " and " fashion." *Style* is a term used to designate the kind and shape of clothing that has stood the test of time and is constantly revised in whole or part. *Fashion,* on the other hand, is the term used to designate a kind or shape of clothing that is popular for a short

time and then disappears, never to return as a permanent contribution to the clothing of mankind.

Description. In order to describe a style of clothing it is customary to include the following points:

(1) The outline or side-view (profile) of the costume on the person. This outline is usually called the *silhouette.* (The term *line* is used in the trade for silhouette.)

(2) The kind and finish of the fabrics used in making the costume.

(3) The details of the finish of the costume, such as decoration, trimmings, and dress accessories.

Since the style of the costume is first determined, then the fabrics that will bring out the style effects to best advantage selected, it follows that the style of the different costumes should be considered first and then the style of the fabrics.

Causes of Styles. Changes in the fashions of clothing are influenced by (1) natural tendencies — the desire to imitate, (2) craving for novelty, etc. — the desire for distinction, (3) political, (4) religious, (5) social, and (6) geographical conditions.

Instincts. Each human being has certain impulses — desires to do certain things — which depend upon heredity and environment and which we call *instincts.* There are many of these tendencies in our nature and they differ in kind and degree in both men and women and vary at certain periods of life. These tendencies prompt us to do or want certain things, and they really dominate the life of man. The common instincts are those of imitation, self interest, modesty, religion, emulation, etc.

Imitation. Since there is a tendency in us toward imitation, it is only natural that we should imitate in general outline the dress of the people we associate with more or less. Hence, each nationality has had a standard of dress usually dominated by the leader of that class. *Style* is the term we use to designate an approved standard of dress. Many styles are designated by the name of the person or country that originated them or by that of the period of history in which the style originated.

Self Interest. Fashion does not depend upon artistic quality alone for its success, but often upon the varieties of self interest of the leaders. In most of us there is a varying desire to appear to advantage in the eyes of our friends and fellow men, and thus gain their approval. This desire has been, is today, and always will be a part of human nature. It exists in varying degrees of intensity. To illustrate: we have had all styles of dress from the modest and old-fashioned to the radical and grotesque, favored by aesthetic or materialistic standards, according to those approved by the multitude.

GROTESQUE COSTUMES

Emulation. The history of costume shows us that protection from the elements has not been the sole reason for clothes. The desire of human nature to receive the approval of one's neighbor is often so great as to cause one to try to outdo one's fellow man in dress, and is responsible today for many changes in costume or fashion. The desire for attention and recognition of our superiority dominates our lives to the extent of causing us to desire clothing that gives us dignity and individuality.

Personality. The manner of wearing the complete costume depends upon the carriage of the woman, which in turn depends in whole or part on her temperment and personality. The movements and actions of different people, such as the poise or position of the body, the line of the legs, the position of the arms and hands when in repose, the gestures or actions of the body when talking, etc., taken altogether determine their physical expression and reveal their personality. This characteristic — personality — determines the beauty lines and hence determines more or less the character of the clothing to be worn.

The different types of personality may be classified as follows: (*a*) girlish, (*b*) graceful, (*c*) care-free, (*d*) aggressive, (*e*) mannish.

The girlish type has a sweet, lovable way about her which can be suggested by materials made in soft lines with bright and dainty colors, supplemented by a few novelities or accessories. This type should have novelty shoes, but simple hats.

The tall and graceful type is usually slender with a rather dignified and precise manner. In order to overcome the tall effect, she should wear costumes made of soft materials, in plain lines, with clear and modish colors and a few accessories.

The care-free type is usually easy-going in her manners, but wiry and high strung. She takes little interest in the care of her wearing apparel. Therefore the costumes should be made of the best materials, of durable quality, with somber colors, and simple lines, so as to require little care.

The aggressive type is usually dependable, capable, and happy. She should wear clothing conservative in material, color, and lines, with few accessories, so that she may be comfortable; this sometimes implies clothing that will wear several seasons.

The mannish or boyish type refers to girls and women who are inclined to be athletic. Their wearing apparel should be simple in line and color, with few accessories.

Some women can wear the spectacular, unusual thing in costume and be in good taste. Other women cannot do this; in the same garment that another type could wear successfully, one woman will look showy and vulgar. Therefore, it is wise for us to discover early in life what type of personality we have, and what type of garments best suit that personality. We must remember that there are types of personalities as well as types of coloring.

Modesty. Modesty is the characteristic of human beings in observing the established principles or customs of their associates in regard to dress, action, etc. These principles or customs differ at different periods and with different nationalities. Religion too has had a tendency to influence to some degree the principles of dress. To illustrate: Religion considers that the body is sacred, and that immodesty in dress amounts to irreverence. Then there are those who, without believing that the physical person is a temple, do look upon it as the abode of a personality too fine to lend itself to the mere advertisement of physical charms. The feeling of modesty with regard to exposing parts or outlines of the human body to view

has changed at different times in the history of civilization, due to religious feelings and the theory of hygiene prevalent among the people.

Aesthetic Taste. It is natural that the aesthetic sense of each person should find expression in his personal appearance. Some clothes that appear to us as charming do not always register style. They may be very simple, but their becomingness to the individual and the way in which they are worn and the wearer's own charm of personality make them appealing. The extent to which the beauty of color and form has satisfied the cultivated aesthetic sense is in a measure a test of one's artistic taste.

Political Influence. Political refers to the acts or conduct of the heads of the government — king, queen, etc. — or to the policies of the government that rules the community, state, or country. If we glance over the history of civilization, we shall find that political events like the French Revolution dominated the minds of men and women to such an extent that they refused to wear the costumes of the nobility. Then again, if the prevailing influence of a time is war, we find the military aspect reflected in the costumes of the people — metallic luster on the fabric, and shapes of hats and coats resembling military uniforms.

Three great events have taken place among the English and French-speaking people in their struggles for freedom. The first was when the people of England rose against the tyranny of Charles I and drove him from the throne. The second was when the people of America rose against the oppression of George III and won their independence. The third was the uprising of the French people against the evils of their government and the founding of a republic. In each case there were simpler tastes in dress, due to the spirit of democracy that prevailed during the fight for freedom.

Different classes of people in a nation usually wear different types of costumes, yet all classes may show the influence of one person. We find the women of a country influenced by the wearing apparel of a queen, and the men by the dress of the prince or the king. The

power of monarchs or leaders has been such as to impress their preference on the upper class and their imitation on all classes below them. In this way they have become dictators of fashion. If this power lasts for any length of time, it may crystallize into a permanent form or style, as that of Louis XV, Prince Albert, etc. The nobility are not today the only ones to determine fashion.

With the spread of democracy came the feeling and possibility that all could wear more or less of the fine fabrics. To illustrate: Many years ago silk was worn only by the nobility, due to the restrictions placed upon dress by antagonism between the classes and the high cost of silk. Today it is not uncommon for a working girl on limited income to have an entire silk wardrobe. In a democratic form of government like the United States, every woman who has the money to patronize the smart couturier has an idea that she is a queen unto herself.

Religion. Every race has some form of religion. It varies from the belief of Christians, Jews, etc., among the civilized races to superstition among the savages. The savages are surrounded by Nature, which they do not understand. In attempting to explain the cause, they are led to believe in spirits. In striving to win favor with the spirits they worship them and offer sacrifices. Charms and different devices are used to ward off evil influence. Hence, we find the uncivilized wearing queer objects in different forms and colors to carry out their religious conceptions.

The people in Asia practice the worship of idols to a great extent. Ancestor worship is practiced in China, while millions in India believe in the doctrine of class distinctions as part of their religion, and this is reflected in the color and style of their clothing. Both of these ideas are part of the religion of the country.

The dress of the women of the early and Middle Ages became beautiful and dignified, as the religious reverence shown to the Virgin Mary was reflected in the dress of all women. At different times in the history of the Christian religion, there have been periods when people became either conservative or liberal toward the conception of modesty because of their religious views. This is reflected in their form of dress, as in the time of Charles II.

Then again, the combination of certain materials, forms, and colors has been emphasized by certain religious ideas. Hence, we

find religious celebrations have influenced the selection of material and color in the dress of the people — such as cardinal red.

The oriental nations particularly have allowed their religious ideas to dominate the dress of both women and men. They have held very closely to the traditions of their religion, hence the form of clothing is constant and not subject to as much change as among the Christian nations.

Religious beliefs have had much to do with inventions and the growth of industry. The Chinese, for example, have long opposed new inventions because their ancestor worship led them to have too much reverence for past customs.

Social Influence. People tend to live together in a community, which may be large or small. In order to live peacefully and happily, they form rules and regulations for their guidance, called customs or laws. These rules and regulations may differ in part or as a whole with different classes or races, but whatever they are, they are called the social laws of a community or race. These social conditions or customs are due many times to the religious beliefs and traditions of the people. To illustrate: The Hindus have different classes or castes. No class or caste can marry into any other caste. To insure a more complete separation of living conditions these castes are often compelled to wear a special form of clothing as a mark of distinction.

Geographical Influence. Each community or race has a definite place on the earth which we call its geographic location. Countries near the equator have a warm climate, which does not require heavy or warm clothing. Countries in the far North and the far South have a cold climate, which necessitates heavy, warm clothing all the year. Between these two limits we have a temperate zone with four distinct seasons, each quite different from the previous season, and calling for changes of clothing.

The division of the year into four parts in the countries of the temperate zones means that every one must change from heavy to light, and from light to heavy clothing at least twice a year. In fact today it has been possible to place on the market in New York, etc., six distinct styles in response to changes in season: winter, spring, mid-spring (May), summer, fall, and mid-fall (October). Because of these changes it is natural that all should

desire new clothes with the change of season. Experience shows that it really takes a year to plan, make, and distribute clothing, so it is necessary to create styles a year in advance. For this reason styles are created in February and August for the following year.

Commercial Influence. Commercial interests now dominate fashion also to a great degree. The desire on the part of dressmakers, costumers, manufacturers, etc., to increase the volume of business by developing new styles is well recognized. Prosperity of a group of people makes extravagance possible, this in turn allows for new desires, for new line of styles, new colors, and new materials.

Conception of Clothes. As we read the following pages, we shall notice that clothes are the reflection of the age in which they are worn. Clothes have had reason for their existence since the time when man was the only animal unprotected by Nature from the weather. It may seem difficult at times to trace the causes of some of the extremes of the fashions of women's clothes, although in all graceful and attractive modes the reason or their existence can be easily seen. In other words, clothes are a barometer or indicator of political, religious, social, or geographical conditions. Note also that the clothing of the human form does not proceed by mere accident, but is guided by the mysterious operations of the mind, which acts on the principle that in all fashions of clothing an architectural idea exists, that the body is the site and the cloth is the material wherewith we build the beautiful edifice of the person.

Period Costumes. Of course there have been thousands of styles of costumes during the history of the world. Some have remained with us and are constantly being revised in whole or part. These costumes that have stood the test of time are Period styles or costumes, and are valuable for us to know in order that we may use them in creating new styles or fashions.

The question may be asked: Why have certain Period styles remained with us after they have gone temporarily out of

fashion? The instincts of human nature as explained above are the same today as they were two thousand years ago. Hence, the costumes that appealed to our ancestors and conform to the laws underlying beauty described in the previous chapter will appeal to us again in whole or part.

Civilization. As every community, state, or country grew in size and wealth, the people began to make progress in the ways of raising food, in clothing the human body, and living in better houses. After these necessities were met, then enjoyment was found in reading, music, art, etc. The state of progress made by each country is called the civilization of that country. As the people spread out, of course, they take the civilization of the home country to the new country, where it is absorbed or merged with the existing one. Hence each civilization has produced a form of clothing representing the artistic influences of the people as they influence each other.

The Egyptians. The Egyptians were a wonderful people who lived in the northeast part of Africa several thousand years ago. They lived in densely populated communities on the banks of the Nile river in a country smaller than Belgium. The Egyptians became highly civilized and left behind them architectural and sculptural monuments which have been the objects of amazement and admiration of the people of all ages. The country was fertile and had a mild climate. Warmth, light, an absence of rain, spring from October to May, and the rest of the year summer, gave the country great prosperity and power. Consequently their artistic appreciation is represented by the lovely white water lily called the lotus, which was the favorite flower.

The people were divided into social divisions according to wealth and position. The government was ruled by a king, influenced by priests who worshipped the personified forces of Nature. There were wealthy landowners living on estates with a great body of dependents, such as servants, artisans, and laborers, yet it was possible for a son of the lowest class to attend school with the son of a nobleman, and he might by education aspire to the highest post in the empire. Women were assigned a high position in Egyptian life, and were not excluded from the world as in some countries.

They took part in the festivities, and because these festivities took place among the beauties of Nature the women of Egypt attempted to duplicate this beauty and their clothing became a work of art. Since the Egyptians lived in a warm country, they used light and translucent clothing of cotton, etc. The different classes of society wore different kinds of clothing.

EGYPTIAN COSTUME

The Egyptian type of dress represents the oriental division. The linen cloth worn by the first inhabitants developed into a longer, circular garment that surrounded the lower half of the body. It varied in length and folds and really became a skirt. The costumes were simple and followed the structure of the body. Later both men and women wore over this skirt a loose, flowing garment extending from the neck to the feet. The fabric used at first was coarse linen, but as time went on, the nobility used fine linen, and the outer skirts at different times were held together by eyes and staples (looped), or by a belt (girdled), or arranged in folds on the body (draped). Fancy girdles, belts, and ornamental aprons, etc. were highly developed and ornamented with flowers in soft colors. The colors were bright green, yellow, red, blue, and black on a white background with motifs.

The Egyptians believed that the body should be preserved as long as possible, because it retained the spirit; hence, they practiced embalming. This idea of permanence was carried out in their choice of clothing. They selected the fabrics that would last longest so as to protect their bodies as long as possible. Linen, due to its composition, has great strength, and can be retained longer than any other fabric. Because of this durability, linen was held in great respect by the Egyptians. It was made into very thin fabrics so that many layers could be worn. These were worn arranged in starched folds for artistic effects.

The hair of the ancient Egyptian woman played an important part in forming the outline of the silhouette. Hanging in heavy tresses, first straight, later braided and curled, the hair combined

with the straight, simple dress (narrow and tight fitting) which was supported by straps and braces over the shoulders, gave a straight, simple silhouette. Later a sleeve was added, followed by a full, plaited, transparent overdress, and then by a long, flowing cape. The Egyptian costume repeats the outline of the body and shows unity of line. Variety is given by the lines of the girdle and neck effects.

GREEK COSTUME

The Greeks. Another country that became famous after Egypt was Greece. The Greeks were a remarkable race. While they lived near Asia, they are not considered an oriental people. They had characteristics quite different from the Orientals — strong love of freedom, simplicity, and moderation. They had a fine aesthetic sense and love of beauty, and created a new form of art which they drew from their religion; they exemplified it in their clothing, sculpture, and architecture. This fine artistic sense has always been considered the highest form and is often referred to as the classical.

The Greeks worshipped the great gods developed from the earlier worship of natural powers. Religious festivals fostered Greek unity because they brought together to the sacred ground all the power, rank, wealth, and intellect of the land.

Notice the costumes of the Greek and Roman periods. Hair and wigs in knots and bands, sandals on the feet, a one-piece garment (confined at the waist by a girdle) which falls in folds to the feet. The gown was made by cutting squares or lengths of linen and then adjusting them to the human form by manipulation. The adjusting of the folds developed into an art. The Greeks invented the freedom of dress, compared to which the Egyptian styles were rigid. The motifs used in designs of Greek costumes were the Greek fret, or "meander," fan, laurel, border and wreath, acanthus leaf, and pine cone. All colors were used in proper harmony.

The Greeks had simple tastes in dress and did not borrow any of the highly colored and ornamented costumes from the oriental countries. The outer dress consisted of a garment composed of a

rectangular piece of cloth, measuring twice the height and width of the body. The fabric was folded and allowed to drape on the left shoulder, where it was fastened at first by thorns, later by pins, buttons, or clasps. A girdle was sometimes worn at different heights, which made a marked contrast to the tight costumes of the Egyptians. Men of higher rank wore an additional piece of clothing, a broad cloak thrown in loose folds about the person. The dress of the men and that of the women were quite similar, although the women wore their clothing more full and flowing in order to appear more graceful. The material used was usually white cotton — sometimes wool and silk. Crepe-like weaves were adapted to folds in draping. At a later period the cotton was dyed, particularly by the nobility, who preferred purple coloring with gold.

CLASSIC GREEK COSTUME

The headdress of the Greeks followed very closely the outline of the head. The only head covering was a thin veil of cotton or a fold of the mantle. Notice that the Grecian sandal had an ample strap that ran from the toe-piece to in-step, thus giving length to the feet.

Notice in the pictures that the lines of the costumes follow the graceful lines of the body, as noted in previous statements. The Greeks made a study of drapery as adapted to the human figure, showing beauty of line and grace in movement. Because of this characteristic, Greek costumes have served as the models of drapery.

During the 18th century, excavations were made in Greece which brought to light fine examples of art which influenced the costumes during the time of Louis XVI and the Directoire periods.

The Romans. As the Greeks were conquered by the Romans, their artistic influence was carried into the new communities. Rome was the center of a civilization that had conquered many other peoples beside the Greeks. In fact, the Romans developed a

civilization that included all the earlier civilization, and from this our own civilization has come. Rome had different classes of citizens — the wealthy, the poor, and the slaves. Her history consists of struggles between the first two classes, always with the purpose of making Rome stronger and better.

ROMAN WEARING TOGA

The costume worn by the Romans was similar to that of the Greeks. At first it consisted of a single garment, called a *tunic*. Afterwards, the men adopted a loose garment (*toga*) thrown in folds about the person, and the women wore in addition a shawl large enough to cover the whole figure. During the prosperous times of the Roman republic and empire, the dress became expensive and was made of wool, fine cotton, linen, and silk elaborately trimmed. The women began to wear expensive jewelry and personal ornaments, particularly bracelets.

The Romans were an intensely practical people, warlike in character. They conquered the parts of Europe now occupied by Great Britain, France, etc., and carried into those countries their style of clothing.

The motifs used in designs of Roman costumes were scrolls with acanthus and suspended garlands and roses. The garlands were used for men's garments. Certain colors were used for each class in society — royal purple, red, creamy white, etc.

The Dark Ages. About A.D. 476 Rome was conquered by Germanic tribes, and during the following 700 or 800 years a very slow development took place in the art of dressing. This period is referred to in history as the Dark Ages. During this time men of the family were often at war, leaving the women and children at home. Most of the people lived in the country, where the houses were primitive, with few comforts, but plenty of work to do. Men were obliged to work most of the time for the landlord or lord. Laws were passed prohibiting the spending of much money for clothing. The idea was not only to prevent extravagance but to develop class distinctions in dress. During this period the making of a costume took approximately a year — all the work in spinning,

weaving, and sewing was done by hand with crude implements. Therefore strict economy was practiced among the ordinary people — garments were handed down from generation to generation.

Commerce and industry had declined as the results of wars, and land was the only form of wealth. In fact, the mass of the population came to live more and more in isolated communities. The feudal system involved the ownership of land by a few lords, and the land was occupied by tenants who rendered service and loyalty to the nobility. Such a system did not develop art.

Cities opposed the feudal system. The cities, particularly in the northern part of Italy, became quite large centers of industry and trade. The trades developed a system or organization called the guilds, which became very powerful and wealthy. A person in the city with ability as an artist or tradesman might prosper and rise in his class without regard to his birth or former station in life. Certain cities, like Milan and Florence, became the style and industrial centers of the world.

During the Dark Ages the only place for artistic development of dress was in the cities, where everyone could dress according to his ability. In the towns and country places, the lords prevented people (except those with wealth) from dressing in good taste. The average person dressed very poorly and had no encouragement to improve his dress.

Dignity of Woman. The church in the Middle Ages, through the devotion to the Virgin Mary, raised the standing and dignity of women in general. This dignity was exemplified in many ways, particularly through the dignified, graceful clothing of the women of the Moyen period.

Development of Clothing. It may be of interest to trace the evolution of wearing apparel during and since the Dark Ages. As most of our ancestors came from European countries, the source of our clothing came from the Romans who conquered at different times what is now Great Britain, France, Italy, etc., and left the influence of their wearing apparel on the people. As the result of the Roman influence the early wearing apparel after the fall of Rome, A.D. 476, was two long, loose garments called *tunics*. These two garments were worn one over the other in such a way that the

under one hung from the neck nearly to the ankles. The outer garment hung from the neck to the knees.

After the fall of Rome, the conceptions of the Christian religion became very prominent. The conception of spirituality of women found expression in the statues of the Blessed Virgin Mary, and the spirituality of men in the statues of the saints. The spiritual conception of the human body was represented by artists and sculptors by a tall, slender figure. This attenuation or lengthening effect of the body was carried into the dress or costumes of the people about the fourth century, as exemplified in the costume of the two tunics. This spiritual expression was later used by artists and architects in building churches in the style of Gothic architecture.

STATUE

Modern statue, Gothic influence, showing how clothing can make one look more spiritual (after - images of elongation).

The outer garment of the costume of the Dark Ages, with its loose, flowing form, was difficult to work in, hence it was confined closer to the body by means of a belt. The sleeves were wide, reaching to the elbow. Later it became usual to wear the shorter tunic underneath and the longer one extended to the ground, while the sleeves extended to the wrist and were held in place by a bracelet or cuff. The outer garment was called a costume and the under one a *petticoat.* A large mantle corresponding to a cloak was worn over all, and a large silk fabric called a *kerchief* covered the head and neck. Later the outer gown was changed from a loose, flowing, graceful garment to a less graceful but more convenient laced, tight-fitting one, so as to fit the figure more or less closely. There was consequently developed a change in dress because of need.

The women of France and England clothed themselves at this time the same as the Greeks. The Germanic tribes did not come under the influence of the Romans, but lived in the country sections and wilderness of eastern Europe. The costumes of the Germanic people were skins and crudely woven fabrics, made into garments which developed later into strangely made peasant costumes, picturesque in character, due to their coloring.

As time went on, the gown was allowed to hang over the girdle, so as to cover it. Then when the outer garment was divided in two, the lower part was called a *skirt* and the upper part a *waist.* If the upper part of the gown was allowed to hang over the girdle, it was called a *blouse;* sometimes the blouse was covered by the skirt and a belt or girdle was used. Women who were inclined to be stout wore a boneless *corset* to support the bosom and retain the curve at the waist.

Since the outer clothing might or might not be wool, a thin undergarment with simple decorations, according to the taste of the wearer, was used next to the body. Since it had to be frequently washed it was made of cotton or linen. A veiling, a thin, transparent fabric obtained from the oriental countries, was popular as a face covering. In addition, embroidered fabrics were used for handkerchiefs, aprons, and ribbons for decorations.

Moyen Age Styles. From this foundation of clothing came a distinct style which has influenced dress to the present time. The style of dress or clothing used by the French and Italians before the Renaissance is classified by the costume designers under the term *Moyen Age.* Since the Moyen Age period is really the starting-point for costume designing today, it may be well to summarize its essential features:

I. Costumes were made of two garments — the undergarment with rather tight sleeves and the outer garment (with short, loose sleeves) divided into two parts — waist and skirt. The waist fitted the figure and the skirt was full. In other words, a close-fitting waist, often called a *bodice,* following the natural lines, and extending to the hips, was held close to the figure by a broad band.

II. At the bottom of the outside garment and around the wrist-bands were free uses of embroidery.

III. To hold the garment a *girdle,* either double or single, was tied in front, with long, hanging ends.

This period was revived by the Parisian designers in 1908.

Notice that the silhouette was natural, and that the outline of the costume harmonized with the human figure. This style period is often used as a model for the expression " conservative dress." The lines of decoration are in accordance with the structural lines of the costume.

Notice the illustration (page 99) of costumes of the Middle Ages — thirteenth and fourteenth century costumes — and observe the characteristics of style: (1) distinct quality of beautiful, sweeping lines, (2) massed color, (3) details which give dignity with graceful movements, (4) the lines of the shoulders remain normal, beautifully sloping into the lines of the sleeve. The only wearing apparel of today, 1930, that carries out these style qualities is the negligee costume.

This style of costume was artistic on account of the long, sweeping lines and good color used in the embroidery, etc., and was no doubt due to the architectural influence of the time, called Gothic.

Gothic Influence. Toward the close of the twelfth century the spiritual conception of the human body of the early ages was carried into architecture and a movement took place to build churches with pointed arches, broad beautiful windows, slender spires, and rich ornamentation. This style of architecture was called Gothic and was developed in France. This Gothic influence in architecture spread very rapidly to other forms of art and later became a tremendous influence in forming the standards of costume in France. People began to have the costume adapted to the person. This brought forth the idea of the relation between the personality, color, etc., of the person and the clothing she should wear.

Note the effect of the headdress and the tendency of the clothing (clinging lines) to leave an after-image of a tall, slender person — which is the Gothic conception.

Velvets, damasks, and other silk fabrics were used extensively in the costumes of this period.

GOTHIC COSTUME

The Renaissance. *Renaissance* is a term used to explain the changes in society, religion, literature, and art which transformed the civilization of the Middle Ages to that of modern times. Since it is a change which took place gradually it covers approximately the fourteenth and fifteenth centuries.

In the northern part of Italy there were a number of great cities like Milan, Florence, and Venice, where men of ability and ambition might rise to any position. The widespread industrial and commercial prosperity brought wealth, which in time gave leisure and a taste for luxury and the refinements of life.

COSTUMES OF THE RENAISSANCE PERIOD

The center of style was in northern Italy. With the development of printing, knowledge of the artistic costumes of Italy spread to France. In 1495, King Charles VIII, son of Louis XI, heard of the great artistic development in northern Italy, and made an expedition there. He was very much impressed with the manners and dress of the Italians and decided then to encourage artistic dress and manners in France. He engaged many of the great artists to come to France. From that time, France became more and more the style center of the world.

During the Renaissance and the following periods up to the French Revolution, the rich were spending much on clothes and the poor were miserably clad. Parliaments and kings regulated the kind of wearing apparel for different people, so that the kind and quality of clothing was an index of the class of society.

An expression of this added wealth appears in the excessive use of heavy fabrics, such as damasks, velvets, etc. A feeling developed

that a sign of wealth was the lavish use of heavy, expensive fabrics, regardless of their artistic appearance on the wearer. This brought about a new style of clothing. The fifteenth century is called the age of draperies, because both men and women loaded themselves with voluminous clothing of all kinds. Shoes had pointed tips two or more inches long.

During the Renaissance, in the days of Catherine de Medici, the hair was curled to a marked degree and then combed straight back from the high foreheads and drawn over a hair-pad much higher at the sides than in the middle.

Notice the costume of Queen Elizabeth and see how absurd it

COSTUMES OF LADIES DURING THE LATER MIDDLE AGES

looks: excess of clothing, including wigs, packed or upholstered on the human figure without meaning. The dress of this period — Renaissance — represented by the picture on page 98 is the highest form of absurdity in the history of costume.

Moyen Age and Renaissance. The great change in the line of the costume was due to the introduction of a special type of corset, called *basque*, the *hoop*, and the *vertingale*. The hoop made the skirt funnel-shape in appearance — narrow at the waistline and quite wide at the feet.

The result was that the simplicity and color of the costumes of the Middle Ages — Moyen period — began to disappear with the

QUEEN ISABELLA

MARY STUART, QUEEN OF SCOTS

HENRY IV OF FRANCE

QUEEN ELIZABETH

Renaissance. Instead of the lines following one another, as in the Moyen period, solid colors and trimmings were added at the neck, sleeves, and skirt, composed of fabrics of satins, velvets, and brocades in heavy design, over the hoop. All of this tends to distort or change the lines of the human figure. Jewelry, lace, tassels, and embroidery of queer color combinations were used without measure.

The petticoat in different colors appears during this period, and there is a distinct, marked division of the costume into waist and skirt. The skirts became fuller and fuller, while the waist line became smaller and smaller. The sleeves and neck were elaborately trimmed.

This new conception of clothing made a decided change in the general outline of the costume. A tendency took place to have a decorative effect that did not follow the general line of the human figure; the hoop skirt and the tight corset were introduced to make the waist smaller.

The small waist is not beautiful, and the attempt to make the waist appear smaller is done with the idea of making one appear taller and the bust fuller. The size of the skirt was balanced by sleeves voluminous at the top.

The hoopskirt effect was introduced during this period, and very stiff cotton fabrics, such as crinoline, were manufactured. The effect of the hoopskirt (petticoats with hoops called *farthingales*) was to make the hips project and the tight waist look as slender as possible by contrast. This made one look taller. This hoopskirt effect was revived again as an extended hip effect in 1918. The long-waisted, pointed bodice effect that has been frequently renewed was introduced during this period. Tight waists made one uncomfortable and women sought relief in fans which were made on a beautiful and elaborate scale.

During this period we find some well-known styles that have been handed down to us. The following represent the most important:

1. The ruff collar worn at the neck was introduced by Catherine de Medici, widow of King Henry II of France. She was of Italian birth, and inherited an artistic sense, greatly influencing France during her reign.

2. During the reign of Henry VIII men's dress reached the

highest degree of elaboration. Plain and untrimmed frills at the neck and wrist were used. The general effect was to make the lower part of the body broad.

3. The Mary Stuart collar is among the styles handed down to us by Mary, Queen of Scots, who had married Francis II of France.

HENRY VIII

This period marks the distinction between the ancient and modern costume.

Look at the picture of the costumes of this period and notice that ladies wore frilled skirts, tight at the waist, and over a rich petticoat; the hips were padded with whalebone and steel. A large ruff was worn about the neck by both men and women. Men wore felt hats with broad brims, and overcoats with tight sleeves. The coats were pointed in front, short, and tight fitting.

Hairdressing. During the middle of the sixteenth century the ladies of the court of Henry II and III of France had their hair drawn over three pads, giving the effect of three wide waves, and held down by a bandeau of pearls. During the reign of Henry IV, of the sixteenth century, a definite movement took place to arrange the hair itself as a headdress. Powdered wigs and false hair became the fashion and lasted for two centuries. A variety of styles of coiffure, ranging from short curly hair arrangments, *à la garçon*, to towering edifices called *commande*. Long ringlets, called " ladies' mustaches," were pinned to the sides of the hair and fell to the shoulders.

After-Renaissance Periods. For a hundred and fifty years after the Renaissance, men dressed as elaborately as women and in some cases more so. In fact, many modern ideas in fashion are drawn from men's and not from women's costumes.

The Stuart Period. During the seventeenth century there was a strong religious feeling between Catholics and Protestants. The Protestants became very conservative in their dress. Under Cromwell the royalists and Catholics were defeated, and Charles I was beheaded. This victory of the people against the king was reflected in a more simple form of costume. The Puritan influence dominated the style of dress in England, which corresponded to the style of clothing worn by the Puritans and Pilgrim fathers in this country.

A PURITAN FAMILY

This style period represents the median between the two extremes — Moyen and Renaissance periods — showing variation in the outline but not enough variation from the line of the human figure to lack harmony.

Note the disappearance of the hoop in this seventeenth century costume, but with drapery and puffing of the overskirt at the hip. The passing of the ruff allows low dressing of the hair.

To summarize: The seventeenth century saw the awkward styles of the previous period change to a more pleasing costume of the following:

1. Hoop skirts were discarded and skirts draped over the hips and allowed to fall in folds to the floor. The sleeves were large, but padding was eliminated. Pillows were used.

2. These periods include the picturesque costumes of the cavaliers in England and the *mousquetaires* in France. The principal parts of the costumes were a broad hat of velvet, with a large ostrich plume, over a face having a pointed beard and on a head with long curly locks. The stiff, starched ruffle of a former period has been

LOUIS XIV

changed to a falling ruffle of lace and embroidery. The shoulder width is increased by curved epaulets. A richly ornamented belt supported the sword. The breeches were loose and tied at the knee with ribbons. Long gauntlets and a short cloak trimmed with lace and with a silk lining completed the costume.

3. The women wore sleeves to the elbow, loose and richly orna-

mented, and the corsage long and pointed. The large skirts were gathered at the waist and trimmed around the bottom with embroidery, often raised to show a petticoat of rich material. The overskirt and sheer embroidered underskirt of today is taken from this period.

The Age of Louis XIV. Louis XIV of France raised his country to the position which it holds today as one of the foremost world powers. Indeed France at that time was unrivalled on the continent of Europe. This supremacy, abetted by increased facilities for travel and communication, gradually obliterated nationalism in a way among the various nations of the continent. Italians, Spaniards, Germans, and Russians looked to Paris for fashions in decorations as in clothes. French became the language for polite discourse among persons of quality in all countries.

The English alone largely rejected what they considered this Frenchified nonsense. But even they were influenced to a certain degree. Great rivalry existed between the two powers, and on certains occasions it took a humorous turn. Charles II of England at one time invented what he fondly fancied to be a style of dress in the Persian taste. He wore it himself and his courtiers followed suit. No sooner did Louis XIV hear of this than he dressed all his lackeys in the same fashion.

The outcome has been that the French are the ones that lead and initiate the styles for women while the English lead in the style for men.

This period was noted for exaggeration in style. The men wore wigs, and large, round castor hats trimmed with feathers. The tight-fitting body garment had increased in length and was decorated with lace of gold or other material. It was buttoned from the neck to the waist, and the skirts were made open. The coat was made without collar or lapel and was open at the neck to show the waistcoat. A lace necktie was carelessly knotted around the throat. The sleeves of the coat were rather loose and were turned up so as to be quite short, showing ruffled shirt sleeves of fine cambric. The front, shoulders, and cuffs of the coat were richly laced. The breeches were of moderate width and were tied at the knees with ribbons. High shoes gave way to low shoes with a buckle of gold or silver. Toward the close of the reign, men's dress became simpler,

although still elaborate in trimmings. Women's corsage was *décolleté*, the bodice rather pointed, the sleeves less than elbow length, with long folds of lace. Long gloves were fashionable. The

LOUIS XIII AND LOUIS XIV

skirts were full, rather simple, short in front, with fullness given at the sides and back by means of an overskirt open at the front. This style was common in 1921. The hairdressing of the women was similar to that of the men. Necks were very low. Capes were introduced to protect shoulders exposed by low-cut costumes.

Louis XV Period. Louis XV succeeded Louis XIV with an open court. Great extravagance prevailed. This was a continuation of the previous period with the following changes in dress: kid and netted gloves took the place of badly shaped leather gloves. The draped bustle was extensively used; this style was revived in 1885.

At the beginning of the eighteenth century the pendulum swung

toward the classical or Greek style, due to excavations in Greece and to the discovery of classical relics.

A more graceful costume was adopted than in the last two centuries. While the hoop skirt, called *pannier*, was used again, it was greatly modified. Lighter-weight fabrics were used, and the decoration was much more dainty and graceful.

LOUIS XV COSTUME

During the eighteenth century great inventions took place in the mechanical and chemical fields, which made possible the manufacture of better grades of silk, cotton, and linen with printed designs. These new fabrics in pretty designs took the place of the heavier velvets and brocades. The heavier laces, like Venetian and French point, that were used in the previous periods, were replaced by the point laces, d'Alençon, Valenciennes, and Mechlin, which gave delicacy to the costumes.

Louis XVI Period. The French government from 1610 to the French Revolution was ruled by kings Louis XIII, Louis XIV, Louis XV, and Louis XVI. Louis XV was followed by Louis XVI and his wife, Marie Antoinette. Both were kind-hearted, well-meaning young people, but the country was deeply in debt, causing poverty and misery to the people. The nobility and clergy owned two-thirds of the land and paid no taxes.

This period was noted for many fashions, such as the powdered wig and white lace collar similar to those we see in pictures of Revolutionary men and women; light shoes with buckles, and high shoes for riding; gaiters buttoned on foot and leg during bad weather. Waistcoats became part of women's clothing. Lace ruffles were worn at the wrist and a lace cravat at the neck. The tricornered hat was richly adorned with lace and silver. Madame de Pompadour, leader behind the throne, introduced the combed-back hair. The bodice was *décolleté* and trimmed around the edges with small floral designs (Pompadour designs). It was made

over an undervest and laced up the front in corset style to resemble the appearance of the peasant girls. The skirts were decorated at the bottom and knee with flounces, and were looped up.

MARIE ANTOINETTE

Marie Antoinette was an Austrian princess, who delighted in playing rustic scenes after the paintings of Watteau. Parks were transformed into dancing courts, and a new style was devised every week to carry out new ideas. Dainty decorations, flowered silks, and artificial flowers were introduced. The following changes were important: the figure became narrower and the bust and bustle were exaggerated.

In the reigns of Louis XV and XVI dress was an affliction — the body was imprisoned and the head top-heavy.

After Louis XV, coiffures became more and more monstrous. Marie Antoinette led the style of dressing the hair by massing it into miniature gardens, seascapes, or pyramids on which tall forests of feathers waved. Sometimes upon a sea of waving hair would be a ship, *Belle Poudre*, with masts, guns, and sailors, representing a recent sea fight.

Watteau Styles. The artist Watteau, at the beginning of the eighteenth century, made a number of paintings of costumes which have remained part of the history of the subject. To illustrate: A Watteau bodice is a style of women's dress having a square opening

at the neck; a Watteau pleat is an arrangement of the back of a woman's dress in which broad folds or pleats hang from the neck to the bottom of the skirt without interruption.

The French Revolution. A meeting of the representatives of all

PERIOD OF LOUIS XVI (left)
AND DIRECTOIRE (right)

the people of France — called the *states general,* which had not met for 125 years — was held in 1789 to consider the question of taxes. Many radical measures were passed, abolishing feudal and special rights and privileges. The king opposed these measures, and he was removed. From 1789 to 1795 the different factions of the Convention ruled, and each faction attempted to annihilate the others. Finally, in 1795, the Convention at Paris adopted a new constitution which placed the rule of the country in the hands of five men, called Directors, who ruled from 1795 to 1799. This time is called the Directoire period.

Directoire Period (1795–1799). This period represents the styles

in vogue at the time of the French Revolution while the government was conducted by the Directory. While the revolution altered women's clothing, it also changed that of the men. The spirit of democracy and equality compelled all men to wear uniform clothing. Simplicity of dress took the place of extravagance. Men wore long trousers of dull colors, long greatcoats, cutaway coats, and dark hats. The clothes were arranged badly and fitted badly. The men were very careful about their dress and introduced the Directoire coat with a short front and cutaway lines.

The dress of the women also reverted from extravagance to simplicity — to that of the Greek and Roman period. The beautiful costumes and designs of Watteau and Pompadour, together with the face coloring (rouge), disappeared. The picture of " Psyche and Cupid " brought paleness of the face into vogue, and ordinary white paint was used to give the *à la Psyche* appearance. Sandals were used instead of shoes and stockings; then flat-heel shoes replaced those with high heels. There was a tendency to use as little clothing as possible. Transparent materials were popular; skirts were trailing and were slit from the hem to the knee or waist. Corsets disappeared, and gowns had straight lines, high-waisted girdles, and little, if any, sleeves. Shoulders were covered by small scarfs or a small coat with long sleeves. Light shades of blue and pink were popular. Women cut their hair.

Empire Period. Napoleon was the commander of the army and set about conquering the surrounding countries of Europe. He was worshiped by the French people and was made emperor in 1804. From 1804 to 1814 is called the Empire period.

After the Directoire was abolished, dress became more dignified — long trains, subdued classic drapery, with embroidery, India and cashmere shawls, and handkerchiefs were used.

This period brought about many social changes, but the effect on dress was slow until court functions were established, when styles became very elaborate. These costumes have never been surpassed, and were copied from oriental tendencies: (*a*) Richly embroidered muslins, (*b*) drapery interwoven with gold and silver, (*c*) profusion of jewelry.

Ruffles were used about the neck. The hair was drawn " in tight " and was surrounded by feathers. Greek fashions prevailed,

with the short-waisted effect called Empire style. The gowns had long skirts of simple lines. Hats and bonnets were ugly, large, and elaborately trimmed. Artificial flowers were used. Note the characteristics of this period in the gown, cloak, and bonnet. The Napoleonic era started the progressive emancipation of women's clothing.

Restoration Period — (1815 to 1830). In 1814, Napoleon was defeated by the combined armies of Europe, and he had to abdicate. A brother of Louis XVI with the title Louis XVIII took the throne.

PERIODS OF EMPIRE AND RESTORATION

This is called the Restoration period. With the return of the monarch, of course, the nobility began to fill the courts, and social functions were planned on a large scale. This in turn stimulated the costume business in Paris. There was a tendency toward a more sober style in dress, due to the changed political and social conditions. Fashions were centered on proper hats, and over

3,000 different styles were produced during this period. White dresses, ornamented with flowers around the skirt, were worn. Sleeves were full and raised up with several layers of ruches or puffed at the shoulder. The sleeve tapered to the wrist, where it was fastened with a ribbon. Thus developed the " leg of mutton " sleeve. During this period, particularly at the beginning, the styles were ugly, due to long shoulders, enormous sleeves of elbow length, and huge hoops, throwing the whole figure out of proportion. Skirts were full and short. The front of the hair was usually parted and curled so that the curls were arranged at each side.

Women wore small bonnets, and had fancy handkerchiefs with lace. Bouquets were carried to all formal functions. During this period, and for a long time after, women living in the country or urban sections looked on costume from a utilitarian point of view and not as an object of beauty. They often wore costumes that were shabby and out of style.

Second Republic. In 1824, Louis XVIII died and his brother, Charles X, took the throne. His ways were old-fashioned, and he fancied he could rule France as in the old days of the French kings. A new revolution broke out in 1830, and Louis Phillipe was made king. While he was liberal to some degree, the people wanted universal suffrage, so a revolution took place in 1848. A second republic was formed and a nephew of the great Napoleon was made president. Later he was made emperor because he granted universal suffrage to men.

The costumes were a continuation of those of the Restoration period with the following modifications: Longer shoulder lines and small waists. Small black lace mantles were popular. Black velvet bands were used at the wrist and throat.

Second Empire Period. During this period the silhouette changed. The gown was made long-waisted, with basque and voluminous train.

In 1854, fashionable dressmakers decided for wider skirts in order to make the wearer more corpulent or to increase the stoutness of thin people. They made the skirt stiffer, so as to support the flounces that were in vogue. The result was the creation of the ugliest mode the world has ever seen.

In order to make skirts wider it was necessary to add interior

stiffening. Various things were tried, such as starched linen petticoats, crinoline, or horsehair cloth, but these failed. Hence a device of hoops of steel and steel springs was adopted, much like the farthingale of Queen Elizabeth and the hoops of Louis XVI; so that skirts became very large with the aid of crinoline, and the

PERIODS FROM 1830 TO 1850

bodice was tight fitting with rather tight sleeves. In 1859 there was a strong tendency to Turkish jackets and dress accessories — fan, parasol, handkerchief, smelling salts, etc. Headgear consisted of a " pork pie " hat, a simple round hat without brim, trimmed with quill or ostrich plumes. This hat was revived in 1901 as a polo hat. The pannier effect was introduced during this period. The skirt was held up high at the back and extended.

Ready-Made Garments. Up to 1865–1870, clothing and costumes were made by individual dressmakers. During these years the style included heavy cloaks. The average dressmaker was

rather expensive, and not able to make a good cloak, due to the fact that she did not have facilities for pressing down and "shrinking on" pieces of fabric to give plumpness to the cloaks. Flaps and portions of corners and edges were not pressed and fitted properly; the cloak failed to fit the figure and did not hang smoothly

PERIOD FROM 1860 TO 1870

like the coat of a man. The result was the beginning of the cloak business as a separate industry. Here was the first sign of a universal feeling on the part of women for stylish and well-made garments. Dry goods stores began to make a large number of models, in fact some of the dry goods stores devoted special attention to this work. From this beginning the business has expanded until now ready-made garments are worn by the majority of women.

The Third Republic. In 1870 a war took place between France and Germany, called the Franco-Prussian war, in which France was defeated and the emperor removed. France then became a

republic for the third time. The dress continued the styles of the preceding period with the bustle prominent. The skirts were made plain and pulled back by string so as to fit with snugness in the front. Later they were made very tight all around to such an extent as to make it difficult for one to sit down. They were sometimes ornamented with as many as twenty flounces on a single skirt. The hair was dressed high and was moved over the forehead.

Victorian Period and Influence. As has been stated before, the costumes of this country have been influenced by both France and England. We have already discussed the French influence. During the period of 1840–1900, this country was influenced to a marked degree by the tendencies in England, which in turn were dominated by the reigning monarch, Queen Victoria. This influence was one of gentility and sobriety which had a certain attractiveness. In England, the feminine manners and characteristics have always been dominated by the practices of the queen. The quiet life and the romantic simplicity of the Queen, together with her harp playing, fancy needlework, and sentimentality, appealed strongly to the feminine mind. As a result of this influence, women assumed the duties of the quiet routine of home life, surrounded by a barrier of respectability, and attended social affairs and the theater under the guidance of a chaperone. All of these conditions influenced the style of dress as opposed to the gayety of the French.

1872

In 1870 the dress clung to the figure, except at the back, where the bustle made an appearance. Yards and yards of materials were piled in draperies over the bustle, descending in a train. Ruffles, flounces, bands, borders, and fringe were placed on the front of the skirt.

The "Grecian bend" was a position assumed by bending the body forward from the waist, so that the lady with the bustle advanced somewhat like a camel. Even the bonnet was tilted forward over the head. By 1890 the bustle had disappeared, the skirt was

cut round, and the hour-glass figure was the fashion. The basque fitted over the corset without a wrinkle.

All skirts during the Victorian period were lined with muslin to increase the weight. Bustles were made in various combinations of wire, whalebone, and crinoline. Some reached to the knees, while others were only a foot in length. Strings held the bustle in place. Fancy bands of passementerie in various designs and heavily beaded were used on all parts of the gowns.

1892

Jewelry. *Victorian Period.* The jewelry worn during the Victorian period in the sixties included sets of pins, earrings, lockets, wide brooches, and bracelets. Watches enclosed in gold cases were attached to long chains. In the nineties, the watch became open-faced and fastened inside the gown. Earrings were long in the seventies, single diamonds (called solitaires) fastened by a wire in the lobe of the ear, but in 1890 this method of fastening was discarded.

Bags, in the Victorian era, were suspended from the waist by chain and hook. These were followed by leather pocket-books, carried in a pocket in the opening in a seam of the skirt.

After-Victorian Period. But tremendous changes in political and social conditions took place in the generation following the Victorian period and transformed woman from a quiet, demure individual to an active person. It was about 1900, when the wasp waist was in vogue, that girls began to take an interest in athletics — bicycle riding, tennis, etc. At that time they could not take part in any games comfortably, confined as they were in tight corsets, so they began to wear looser ones. In addition, they began to wear clothes that made it easier for them to play games comfortably.

Athletics and exercise have also contributed to the increase in the size of the frame of the body and decreased excess tissue, since when a girl is exercising she wears the loosest garments

possible, and in such clothes there is every chance for expansion, which is just what happens.

Thin-Fabric Costumes. In the nineties, tailored suits with large-topped sleeves were used. In 1895, the shirt-waist came into vogue. It consisted of stiffened body, collar and cuffs, with four-in-hand tie, cuff buttons, and belt. The tailored effect disappeared, followed by elaborately trimmed waists of silk, satin, velvet, and lace. Shirt-waists were worn with a black skirt.

1902

Up to 1895, women's skin, except her face, was never exposed, due to the opaque materials used. Eyelet embroidery openings in the body and arms of the waist now exposed the flesh, which caused much talk about a woman exposing her flesh — neck, arms, etc.

Then came the introduction of the thin fabrics, gauzes, chiffons, voils, and georgettes. Up to 1900, women wore heavy underwear, due to the ineffective system of heating. Heavy silk, all wool, long-sleeve and ankle lengths, were worn during the cold weather. Under flannels disappeared when the fur coat and thin costume appeared. Transparent gowns showed heavy underwear. Linen underwear was made attractive.

1912

Notice the costume of 1892 in the above picture. It conveys dignity and beauty, due to the severity of outline and the elimination of details, such as found in the previous periods — ruffles, ribbons, lace, hoops, and bustles.

The figure of the American girl is undergoing a revolutionary change. The change is becoming more and more pronounced because girls are going in for athletics on an even wider scale. So much stress naturally falls on the legs of a girl who swims, plays tennis, and goes in for all the popular sports that the limbs are losing some of their fleshiness.

Modern Influence on Dress. During the last generation many social and political changes have taken place in the United States that have had a strong influence on women's clothing. The most important are:

(*a*) Women going into business

(*b*) Women's activities in sports

(*c*) Universal suffrage for women

(*d*) Development of motor cars and airplanes

(*e*) Women's activities during the war

(*f*) Applications of the new principles of hygiene to dress — exposure of body to sun and air as far as possible.

(*g*) Development of æsthetics — the feeling that every person should be made as beautiful and attractive as possible.

Influence of the Automobile. The automobile has become such an important factor in everyday transportation that it is necessary to have clothing adapted to this means of transit. Moreover, people are spending much money on automobiles that they would under ordinary conditions spend on clothing.

The motor car has revolutionized the head gear of women. There has been a gradual development away from the motor hood and veil to a close-fitting street hat. The exodus to the country which the car has made possible, has necessitated a different type of dress, adapted to different kinds of sports, country club activities, etc.

The peach-basket type of hat came into favor in 1909, and completely concealed the hair. For over twenty years hats have covered the hair. This is due to the motoring habit, so as to keep the hair from flying in the wind. The peach-basket type consisted of a large crown and brim with flowers flattened against it. Lace and finely pleated ruffles were used in place of the brim. The tight-fitting crown has done away with hat pins.

Education and Suffrage. Within the last generation girls have been given the advantages of both general and professional education equal to boys. This added advantage, plus the universal suffrage granted to women in the United States, gave them a

freedom and independence that developed all their potential powers as leaders in sports, business, politics, etc., which has been reflected in their demands for simple clothing.

COSTUMES OF 1922

World War. During the World War women took the places of men who went to war service, and the idea that women must be prepared to take men's places was reflected in the clothing — straight-line and tailored effects. The result was that women evolved clothes in keeping with the new emancipation, such as uncorseted, short-skirted clothing, and hats as simple as those of men.

After the war women still claimed the privilege of dressing for business, and they naturally demanded that clothing for business, leisure, etc., should be (1) comfortable, (2) of lasting qualities — to hold its own against breakage in every-day exertions, (3) easy to put on, such as a one-piece garment, (4) light in weight for hygienic reasons.

Ten years after the war — 1929 — a reaction set in. Women of today differ from their grandmothers in participating in the business and political world and naturally select simple, adaptable clothing, during the day, for these new duties. Nevertheless, the instincts and love for the beautiful are little different in the girl of today from those of her grandmother. Hence, when evening

enjoyment comes we find women longing for costumes with some of the beautiful influences of the period costumes of the past. The wistfulness of the crinoline period of our immediate American ancestry has its appeal in the appearance of the bouffant costume for social occasions.

Modern Tendencies in Dress. The business woman in this modern world applies the same common sense and good judgment to the selection of her wardrobe that she does to the transactions of the daily tasks of her business. She knows that she cannot be efficient without that physical comfort and mental ease which comes from being dressed so that she looks and feels her best. This means that she must be groomed for the street as well as for the office, because her place in the business world is no longer limited to indoor positions.

MODERN

A woman in an executive position, often attending or presiding at official conferences or meeting clients of her organization, likes to be more formally tailored. A bow or flange adds to her feminine charm without jeopardizing the air of dignity and poise which she likes to maintain — especially if she holds to conservative color choices like navy blue, beige, or black.

Costume for the Home Woman. A woman should wear at home clothing that will reflect the spirit of the home. The costume should be cheerful and adapted to her social station. If she is a busy housewife, the house dress should be a washable one-piece — chambray or percale. The sleeves should be three-quarter length. For outdoors the housewife should have a coat and skirt of tailored cut, such as a serge or broadcloth or velvet, inconspicuous in color and without fads or frills.

Evening Costume. An evening gown or cloak allows one an opportunity to satisfy her longing for beautiful, fragile fabrics, richness of color, graceful draperies, and exquisite trimmings. The fabrics that may be used are diaphanous chiffons, youthful taffetas, glossy satins, rich velvets, crepes, and metal cloth or lace.

EVENING COSTUME

The ideal evening gown is sleeveless and has a low neck line. In order to wear this gown well it is necessary to have a smooth, white neck and a pair of shapely arms. All imperfections, such as thin or stout arms or shoulders, roughened skin, etc., must be tactfully veiled from full view.

The history of clothing shows that most novelties in dress are tried in the evening as no one objects to experiment a few hours on a new costume. To illustrate: The extremely narrow skirt, flesh-colored hose, extremely low shoes, and extreme hair styles have been introduced at night.

Operas, beaches, and race tracks are ideal for the display of styles, for these places are literally a playground for those who know how to play and can look well while at their leisure; and all the visitors come out to see and be seen.

Ensemble in Dress. The expression *ensemble* as applied to dress meant originally the coat and skirt to match or to contrast, and later meant a costume in which the hat, gloves, shoes, stockings, and shopping bag matched or conformed with the general idea of the costume as a whole.

Business Clothing. Business clothing should be adapted to the conditions of the business. In order to give a clean-cut impression, the costume should consist of a smart-looking tailored

shirt or blouse with a well-cut skirt, a smart belt, and good neck wear, or a simple one-piece dress. The rest of the clothing, such as a hat and outer covering, should be suited to the weather and should harmonize in color. It goes without saying that bright gloves, high belts, and party dresses have no place in a business office.

Notice the straight-line effect and simplicity of the tailored suit.

TAILORED COSTUME

RIDING HABITS

Straight is the line of duty;
Curved is the line of beauty.

Sport Costumes. Pictured above is a smart riding habit of the 60's — yards and yards of skirt, with a graceful long train trailing in the dust, and a flowing scarf to float in the breeze. Poised, either side, are two very up-to-date habits. Mannish looking, indeed, in contrast to the costumes of the past, but infinitely becoming to the young women of good carriage.

There are all forms of sport costumes today for women.

The Figure or Silhouette. Dresses during the World War were similar to the Empire in line — high waist-line, long sleeves, clinging skirts of crepe de chine, soft satins, and georgettes. The shoe tops met the skirts. Shoe tops increased in height so that the skirts became shorter until finally they reached only to the knee.

The slender, boyish figure was introduced as a silhouette after the war. This style outline continued for ten years, when a

tendency toward greater elaboration became noticeable in all phases of the evening mode. Springing from complicated cutting, this new elaboration accentuates rather than interferes with the simplicity which well-dressed women have learned to prize.

SPORTS COSTUMES
Showing freedom and spirit of youth.

The brassiere made possible the fashion known as the "boyish form," and succeeded in pressing down the figure until a flat chest that is neither beautiful nor healthful resulted.

Flapper Style. The girl from 12 to 18 is rather difficult to dress, due to the fact that she has her own ideas about the subject and attempts to imagine that she is a grown woman.

EGYPTIAN

After 1926 there was a tendency among women to assume the physical appearance of the flapper with the boyish figure. In attempting to attain this form some women go to the extreme of dieting, etc. The Egyptians, 4000 years ago, tried to develop a boyish figure (see figure).

Period Costume. The costumes that we have described in the different periods represent the types that have appealed to the highest group of society at different times and naturally represent the highest form of art expressed sartorially at those periods. These costumes, complete in themselves, are suitable only for special occasions, and were never intended for ordinary wear. They were intended for evening gowns, theatrical purposes, and fashion shows. These period costumes, modernized, are spoken of in fashion circles as *robes de style*, to distinguish them from individual gowns, that is, costumes adapted to the needs of the individual.

Each season's style seems to be a development of last season's efforts. If we look over the history of clothing, we shall find that there have been two distinct developments: (1) Those which have been affected by cosmopolitan influences, that is, reflecting current events such as artistic, political, social, and geographical conditions, and which have been described as period costumes, and (2) the wearing apparel peculiar to some one nation and worn by it century after century — such as the peasant costumes of the Balkans — called national costumes.

Individuality of Each Nationality. Each nationality has a special style of dress and color that can only be worn successfully by the woman of that country. To illustrate: Note the colors worn by the Spanish and French women. The same colors cannot be worn successfully by American women. It has taken centuries of inbreeding to wear red, green, and yellow, and to develop a romantic setting and a natural audacity that allows one to wear these colors.

Many countries have a peculiar form of dress that has distinct artistic value and is used from time to time in developing new styles.

PERSIAN COSTUME

A strong indication of the present force of the feminist movement is shown not only in the United States but in other countries — Spain, Turkey, etc. In Spain it is shown by the gradual disappearance of the mantilla and in Turkey by the replacement of the veil by the hat.

The following represent the characteristic costumes worn by different nations that have influenced modern styles:

Oriental Costumes. The costumes of the people in the oriental countries have not changed as rapidly as in western countries, due to the peculiar religious beliefs — respect for traditions and ancestors. The rules that govern the life of the oriental woman are rather severe. To illustrate: The Koran pre-

scribes that the Mohammedan (Moslem) women be draped in such a manner that the rhythm of her bodily movements shall be completely hidden, as well as the outline of her face. This means that her clothing must be long, loose, and plentiful.

Oriental countries present a carnival of costumes. The black-robed heavily-veiled Moslem women are the background for all the bright colors. The Bedouins in white, flowing robes, the Jews in long striped yellow and red skirts, with richly hued silk head draperies, Syrians in European dress except for the tall red fez, French soldiers in blue, tourists with tropical helmets and moving-picture machines, marvelously ragged beggars, magnificent Mohammedan magnates, priests, porters, and beturbaned Moslems are all common.

Hindu Costume. India has been dominated for centuries by religions and tradition. The natives of India are divided into many classes and castes with distinct social privileges. They have developed costumes with many beautiful artistic effects which have occasionally been a source of influence on our costumes.

Since the Hindus invented cotton clothing, it is only natural that they should have developed wonderful fabrics — delicate muslin and calicoes, both plain and figured. In addition they had silk fabrics and shawls of wool.

Hindus of all classes are turbaned. A veil or wrap of muslin or silk is worn around the waist, with one end falling to the feet and crossed over the bosom, shoulder, and head. This is called a *sari*. The right hand and shoulder are visible. A tunic is worn underneath, with either long or short sleeves. Drawers are worn underneath the tunic.

BYZANTINE COSTUME

Byzantine. Constantinople became the center of art from the fall of Rome in 476 until the end of the twelfth century. Originally Christian, and located near the oriental countries, this district developed into great prosperity during the above period, and its art and industry became famous and were known as Byzantine. Byzantine artists excelled in all kinds of decorative work and ex-

erted a wide influence. Russia received not only its religion but also its art from the Byzantine. Even the Mohammedans borrowed from it artistic ideas.

The costumes of the Byzantine era were gown, mantilla, girdle, sandals, veil held by a band or crown, and the hair in a long braid. The motifs of the designs were oriental and Christian ornaments, combined as " holy monograms," " dove-lamb " cross, Greek cross, circle, peacock, etc. The colors were rich, resembling those of jewels and metals, copper, gold, etc.

The costumes of university officials and Church costumes have always remained Byzantine in style.

Arabian Costumes. Arabs are the descendants of the people who occupied Arabia, a vast peninsula between Asia and Africa. The interior is a desert inhabited by wandering tribes. Other Arabs lived in cities and enjoyed a varied community life. The women wore fabrics of different degrees of quality — silk, etc. — interwoven with gold thread. Square or oblong pieces of cloth were gayly colored and fastened to head and shoulder, with trousers of silk or long tunics, and red shoes turned up at the toes.

Turkish Influence. The land occupied by Turkey is between Asia and Europe and is influenced by both continents. More than five centuries before Christ, Turkey in Asia was conquered by the Persians; two centuries later it came under the control of the Greeks; and later still, it became a part of the Roman empire. With the decline of the Roman empire came invasions by wandering Turks, Tartars, and others. About five hundred years ago the Turks, who were Mohammedans, captured Constantinople and the nearby countries and the civilization of this region soon declined. Although Turkey is rapidly following the traditions of dress of the Europeans, and is discarding both the religious and social customs of the Orient, the influence of the Turkish dress has prevailed in certain adjacent countries for several centuries, and is frequently used as a model for costumes of the present day in Europe and America.

The Turkish costume consists of tight-fitting dress opened down the front, with sleeves smooth and wide below the elbow. A full underskirt reaches nearly to the ankle, with baggy trousers below. There are elaborate decorations, borders and embroidery.

Greek Costume. The modern Greek peasant costume is very different from that of the ancient Greeks. It consists of a coat with rich gold embroidery on red or green velvet; and the trousers have effects due to Turkish influence.

RUSSIAN COSTUMES

Russian. In former centuries, while other parts of Europe were advancing in civilization, Russia was still being raided by hordes of outsiders. The country was so far away from western Europe that it felt little influence from the growing civilization of the West.

The costumes of the northern and eastern Russians include a short, flaring jacket (sleeveless) with the yoke made of different materials; the skirt is full, and most of the costumes show beauty, richness, and variety.

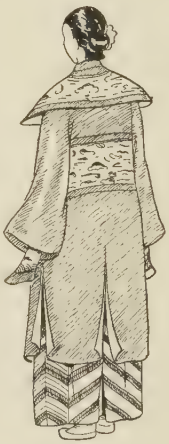
The costume for men consisted of a belted tunic or blouse to below the knees, showing the shirt under a V-opening. Over the tunic was a long, well-fitting coat. The cap was fur-bordered, with a conical crown. Full trousers were tucked into high boots below the knees.

Japanese. The Japanese costume includes a long kimono fastened by a sash with a bow in the back. They wear a form of a

slip underneath the kimono. Several kimonos are worn, with decorated edges at the neck. Closely fitted kimonos interfere with walking, hence the pigeon-toe gait.

JAPANESE COSTUME

Chinese Costumes. China is one of the oldest countries and has developed ideas of dress that are artistic in many respects. The Chinese are an oriental race controlled by religious and social traditions that have dominated the costumes of the men and the women. The outlines and parts of woman's form were not to be exposed, hence we find trousers or combination of trouser effects, as in oriental countries.



CHINESE COSTUME

The Chinese conception of woman was one frail, delicate, and languid. Hence small feet, etc., were stylish. Red was the popular color for happiness. The Chinese invented fabrics of soft texture, such as satin, velvet, brocades, etc., and of course used them in clothing. Embroidery rich in color was extensively used. For ease and comfort Chinese clothing consisted of very loose garments composed of thin or thick silks and cottons. The sleeves were wide and hanging, for comfort in the warm weather. Trousers were completed with an over-hanging skirt. Note that the trousers are usually covered to a marked degree by long gowns or jackets. Women's garments were trimmed — men's were not. Clothes were usually made without pockets, and things were stuffed in the stockings, sleeves, or back. Shoes were composed of felts, whitened — not blackened. Slippers with or without stockings were worn at home.

Peruvian. The costumes of the primitive people like the South American Indians, Peruvians, etc., were usually single garments in bright colors with simple decorations. The designs were usually symbols.

Peasant Costumes. Today there is a tendency to have a fairly uniform costume for men and another for women for ordinary wear, except in the oriental countries. It is true the peasant and national costumes still exist, but these are worn only on festival and holiday occasions. But there is still a strong distinction between the oriental (eastern people) and occidental (western people), due principally to religious tradition.

During the eighteenth century the national costumes began to disappear, and we notice the development of peasant costumes in the provinces of Europe. These peasant costumes reflected the artistic feelings of the different localities, and have served as inspiration for the styles of today. To illustrate: the embroidery of the Bohemians and of the Slavonic people.

The fabrics worn in the national dress were those suitable for the climate. Dyeing has always been practiced by the peasants, hence their costumes have a tendency toward a great deal of color.

The Mexican costume consists of a high-peaked hat with roll brim, sash, and colored handkerchief about his head, and a blanket or mantle draped about his body.

The Bohemian costume has large sleeves embroidered or trimmed with colored ribbons. Red is one of the favorite colors, due to the feeling that this color would keep away the evil spirits. The apron is elaborately decorated. A flower wreath denotes an unmarried girl.

Many of the gypsies or Bohemians were of Hungarian origin, and they wandered from country to country dressed in elaborate costumes.

THE SPANISH MANTILLA

The Spanish people occupy a peninsula sharply separated from the rest of Europe by mountains. The closeness of Spain to Africa has always brought the country into intimate relations with that continent. The name Moor was applied to the Arab people who occupied North Africa and Southern Spain and introduced Arabian culture into Spain.

The characteristic dress of the Spanish peasant is the mantilla (of oriental or Arabian origin) of black lace over a lady's head, held

up with a large comb worn in the back of the hair. The bottom of the skirt is always richly trimmed.

Fashion is Dominated by Reason. As we have studied this chapter, we have seen that there is a reason and a good one for every change in costume. The reason may be political, social, or religious, but the changes in fashion are not introduced by designers altogether to make business, as is often charged. They are made at the desire of the people themselves, because of their wish to avoid monotony in their apparel. A woman obviously could not wear a beautiful gown indefinitely, as it would cease to please her friends, and then begin to tire them, and thus defeat its fundamental purpose, namely, to gain distinction.

Forecasting fashions is " not so much a guessing game as is sometimes thought." It can be done accurately, scientifically, by a knowledge of the past. This involves a scholarly breadth of view and depth of knowledge of peoples and customs, ancient, medieval, and modern, for the rich person in Egypt or Babylon reacted in much the same manner as the rich person of today.

The Paris *coutourier* does not like to admit this. He prefers to have it thought that some special talent enables him to foresee things. But the real reasons are there just the same. To illustrate: the short skirt is simply another sign of woman's emancipation. It is worn because of the growing desire of women to be free and to feel free. The change came from a long evolution which reached its climax when American and English women received the vote. The short skirt gives them a sense of freedom. Hence, in one form or another it will always be the dress of the active, sport-inclined business woman.

A Tut-ankh-amen's tomb is discovered; soon every home in the country is familiar with its contents, and its influence makes itself felt in many and subtle ways.

No one is more keenly aware of the great educational forces let loose in the world than the merchant. He has become mass-conscious. The merchant has found a new romance in his busi-

ness. He is no longer just a seller of fixed commodities. His office is a channel for world thought; past him sweeps the panorama of modern trends and ancient customs. He watches political and economic movements. He studies the art of his own and foreign countries. He familiarizes himself with social, political, and religious tendencies. Why? Because he has learned that out of them grow fashions and styles.

Fashion, taken in its broadest sense, does not concern clothes alone. It registers the degree of man's interest in the major portion of things that touch his daily life: the clothes he wears, the rooms that he lives in, the house that shelters him, his automobile, his office. The more sophisticated he gets, the more he demands distinction in the many manifestations of fashion.

As in all life there is perpetual change, so there is change in fashion. The appetite for variety is another manifestation of the expanding inner life of mankind. It must never be permitted to sink into monotony; it must never be allowed to become commonplace.

Style caters to man's love of distinction; around it swing the principles of good taste. It is the resultant of good design, harmonious colors, and good workmanship. Fashion, on the other hand, is defined for the merchant's purposes as designating those newer items of merchandise for which there is a present or anticipated demand, based on the changing desires of the public. Style is thus a word most useful to designate fine qualities of design, proper use of materials, and skillful workmanship in the objects offered, while fashion primarily results from a favorable psychological reaction of the crowd toward the merchandise.

The eagerness on the part of the customer to purchase the "right thing," and the desire of the merchant to supply it intelligently, brought into existence a new type of service headed by the stylist. The function of the stylist is centered in what might well be called the merchant's laboratory. Here the elements that contribute to style are studied. The stylist's is a highly specialized job, concerned only with keeping in close

touch with current developments and their interpretation as related to the fashions of the past and present.

In the development and application of fashion knowledge through a centralized bureau, the buyer had to rely solely on his own judgment and taste, looking to the producer of merchandise for guidance. If the latter made an error it was passed on to the retailer — an expensive proceeding. Under the present system the stylist or fashion bureau makes known its findings in time to guide the store buyer, that is, before the season begins, and she is able to check up the information in the light of her practical experience. The methods of thought regarding line, mass, and color of both stylist and buyer coördinate, thus producing a harmonious and balanced relationship in their undertakings.

Cycle Theory of Fashion. Since styles constantly change, the old styles appearing in new forms, there has evolved the cycle theory of fashion.

If we glance through the progress of history, we shall find that fashions do not change altogether. They merely repeat themselves in a continuous cycle, with slight modifications to meet the difference in conditions between the past and the present. Peasant hats 100 years old revealed a striking similarity to the modes of 1926. Many of the smartest of modern evening frocks displayed reflected the full skirt and at least a suggestion of the nineteenth-century bustle.

The fashions of the wealthy classes change more quickly than the poorer classes, due to the difference in wealth. That is the reason the national costumes of some peasants — Hungarian peasants — have not changed in 400 years.

The customs, conventions, and standards of living and social conduct have changed in the different parts of the world and also in the different ages. These changes are reflected not only in the manners of the people, table etiquette, etc., but also in the clothing. What would be good manners in one period would be bad form in another period.

During the Victorian period it was improper to wear scanty or thin clothing. Today we know by the latest teachings of hygiene and the customs of people that it is quite proper to have light-weight, sheer (thin) fabrics, and to have the body as far as possible exposed to direct rays of the sun and the circulation of air.

Briefly stated, the cycle theory is this: At stated periods fashions are bound to repeat themselves. Small hats, for instance, enjoying their vogue today, may pass out next year, but will inevitably return after the mode has run its course. Ankle-length skirts, so beloved by the Victorians, may be entirely out of the picture for the moment, but one day they, too, may come back.

Any woman with a taste for the picturesque is bound to be charmed by the frock which, with tight, low-cut bodice and full, voluminous skirt, recalls the earlier glory of kings and courts, the charm of powdered hair and patches.

QUESTIONS

1. Why is a study of period costumes or the history of costumes worth while?
2. What is (*a*) style and (*b*) fashion? Explain in terms of clothing.
3. What are the points necessary in describing a style of clothing?
4. (*a*) What causes changes in style? (*b*) Give examples showing the causes of changes.
5. (*a*) What is meant by political and social changes in society? (*b*) How have their forces changed styles?
6. (*a*) What is an instinct? (*b*) How have instincts been responsible for changes in styles?
7. Explain why costumes that were charming a generation ago appear ridiculous today.
8. (*a*) What is modesty? (*b*) How has modesty been instrumental in changing style?
9. (*a*) What is emulation? (*b*) Explain how emulation has been responsible for changes in styles?
10. Describe how the aesthetic taste and commercial interests have influenced styles.

11. Explain how the changes of season in the temperate-zone countries have been responsible for style changes.

12. What is meant by the expression " period costume "?

13. Describe the Egyptian civilization, telling political, social, and religious conditions that determined the type of costume.

14. What are the artistic features of the Egyptian costumes?

15. Describe briefly the political, social, and religious conditions of the Greek civilization, and the type of clothing.

16. What are the artistic features of the classical costume? Compare to the Egyptian dress.

17. Describe the Roman civilization and characteristics of Roman clothing.

18. (*a*) What is meant by the period called the " Dark Ages " in history? (*b*) Describe the political and social conditions and the style of dress.

19. Trace briefly the development of clothing during the Dark Ages.

20. (*a*) What is meant by the " Moyen Age " styles? (*b*) Summarize the characteristics of the period.

21. (*a*) What is meant by the Gothic influence? (*b*) Describe the artistic qualities. (*c*) What has been the influence in dress?

22. (*a*) What is meant by the " Renaissance period " in history? (*b*) What were the social and political conditions?

23. Why was northern Italy the great center of style and art during the last years of the Dark Ages?

24. How did France take from Italy the honor of being the style center?

25. (*a*) What was the conception of clothing during the beginning of the 16th century? (*b*) How did this conception change the general outline of the costume of the previous period?

26. What were the characteristics of costume during the early Renaissance?

27. Compare the Renaissance and Moyen Age periods of dress.

28. Compare the dress of men and women during the period of 150 years after the Renaissance?

29. (*a*) What is meant by the Stuart period of dress? (*b*) Why were the costumes during this period about the same in France as in England? (*c*) What are the characteristics of dress during this period? (*d*) Give the artistic characteristics. (*e*) Compare to the Moyen and Renaissance style.

30. (*a*) Describe the political and social conditions under Louis XIV. (*b*) State the characteristics of dress under this period.

31. What were the changes in dress between Louis XIV and Louis XV?

32. (*a*) Describe the political and social conditions under Louis XIV. (*b*) Who was Marie Antoinette?

33. (*a*) What were the characteristics of dress during the reign of Louis XVI? (*b*) What caused the changes from the previous period?

34. (*a*) What was the French Revolution? (*b*) What caused it? (*c*) What effect has this revolution on costume?

35. (*a*) What is meant by the directoire period in French history? (*b*) What were the political and social conditions? (*c*) Give the characteristics of dress.

36. (*a*) What is the Empire period in French History? (*b*) What were the political and social conditions? (*c*) Give the characteristics of dress.

37. (*a*) Explain the meaning of the Restoration period in French history (*b*) What were the social and political conditions? (*c*) Give the characteristics of the costumes of this period.

38. (*a*) What is meant by the Second Republic period in French history? (*b*) Describe political and social conditions. (*c*) Give the characteristics of costume.

39. (*a*) What is meant by the Second Empire period in French history? (*b*) What were the political and social conditions? (*c*) Describe the characteristics of dress at this time.

40. (*a*) What is meant by the Third Republic period in French history? (*b*) Describe the political and social conditions. (*c*) Describe the costumes of this period.

41. (*a*) What is meant by the Victorian period in history? (*b*) What were the social conditions during this period? (*c*) Describe the costumes.

42. Describe the social and political changes that took place after the Victorian period, and the influences.

43. What social and political changes took place during and after the World War?

44. What appeal to us have the costumes of our ancestors?

45. What is the difference between period and national costumes?

46. Name the characteristics of the following national costumes: (*a*) Spanish, (*b*) Russian, (*c*) Bohemian, (*d*) Greek, (*e*) Chinese, (*f*) Japanese, (*g*) Mexican.

47. (*a*) Are the national costumes disappearing? (*b*) If so, express the causes.

48. Is fashion a whim or fancy or is it really a carefully planned change due to certain political, social, or personal reasons?

49. Explain the cycle theory of fashion.

CHAPTER V

THE PARTS OF THE COSTUME

Introduction. In the previous chapter we saw how the outline of the whole costume has changed from time to time. The costume is composed of separate pieces which have also changed in order to give the desired style effect to the whole. We shall now consider the history or evolution of the different parts of clothing that make up the complete costume.

Clothing was originally made of the skins from which the hair had not been removed. Later, the skins were beaten until they became soft and smooth. The edges became fringed, which made a form of ornament. As men spent much time in hunting and fishing, it was necessary to have the right arm and shoulder free, hence the skin was thrown over only the left shoulder.

SKIN
Prehistoric.

LOIN CLOTH
Egyptian

With the invention of weaving, skins were discarded in favor of woven coverings, which were much better adapted for use. Fringe of the loose threads of the two edges of the woven material imitated somewhat the appearance of the skin coverings. The diagonal direction of the garment appears more attractive and interesting than the vertical or horizontal position.

Shoulder Cloth. One of the oldest articles of dress is the covering slantingly draped over the shoulder. Sometimes it is not a garment at all, but a square piece of fabric or material wrapped around the

shoulder, the upper part of the body, and sometimes the entire body.

The simplest and the least artistic part of clothing is the back covering and arm covering. Its purpose is to protect the wearer from the cold, and varies with the climate and the season of the year. It was originally a skin on the back pulled over the arms and shoulders and held together in front. When the weather was warm the shoulder remained free and the covering trailed behind. This arm and back covering developed into a cape, leaving the neck and upper part of the chest free.

Hip Cloth. The oldest piece of clothing for the lower part of the body is called a hip cloth. It consists of a small or large band. The narrow band and shoulder covering was used until the introduction of a shirt-like garment. The Negro women of Africa wear a high-belted hip cloth.

The hip cloth was worn over the loin cloth. The loin cloth was worn next to the body, and had to be simpler and plainer than the hip cloth in order to be frequently washed. The hip bones supported this garment.

HAWAIIAN COSTUME
Showing a form of hip cloth and shoulder cloth.

Modern Clothing. In Chapter III we found that, up to the Middle Ages, the costumes of men and women were quite similar.

The distinctive dress of men and women as we know it today emerged when the Franks, Germans, Gauls, and Latin races mingled. During this period people of the South traveling in the North of Europe found the climate cold and required a different garment from that which they had been wearing. They began to wrap their legs in cloth, and this was the beginning of the trouser. Soon trousers became the established type of dress of men, and the long skirt became the vogue of the women. The articles of clothing worn underneath varied according to the climate of the locality.

The garments that we wear are composed of parts of cloth sewn together at the back, front, and sides, showing definitely a seam or an opening in these four places. The original form of the sewn garment, at first a skin and later a woven fabric, was a simple shoulder covering with (1) a hole in the center for the head to pass through, and extending from the neck, covering the shoulder and the back and front of the upper part of the body, and later (2) holes for the arms to pass through. Thus we have a tunic with or without sleeves, which originated from the shoulder covering.

TUNIC
Assyrian

EARLY SKIRT
Egyptian

From this simple device there have developed various kinds of garments made of cotton, wool, silk, linen, etc., and decorated with colors, feathers, and trimmings. By connecting the sides, front, and back with sleeves, and an opening in front so the wearer could slip into it without pulling it over his head, the beginning of a coat was made. Later, a collar and large pieces were added to the neck and sides of the garment.

As we study the history of costume, we note how fashion has emphasized (in both men's and women's clothing) different parts of the body. The fashion of the (1) Moyen period emphasized the whole natural figure, (2) the Renaissance emphasized the hips by masses of drapery, (3) in the period of 1896, enormous sleeves emphasized the shoulder, (4) the short skirt of 1928 emphasized the legs, etc. Sleeveless gowns emphasize arms.

Every costume is a development from the tunic, loin cloth, shirt, and cloak. In the previous chapter the history of costume was discussed. Three broad divisions, (1) Oriental,

(2) Classical, and (3) Germanic may be traced in the following order:

I

A. Prehistoric
B. Egyptian (Earliest civilization)
    1. Early Egyptian
    2. Coptic (Egypto-Roman)
C. Classical (Earliest European civilization)
    1. Greek
    2. Roman

CLOAK
Roman Senator

TUNIC
Greek

TOGA
Roman

D. Persian
    1. Sassonian (226 A.D. to 642 A.D.)
    2. Mohammedan influence (642 A.D.)
    3. Safidian, 1499 (Height in 16th century)
E. Indian
    1. Hindu, Persian, Mohammedan influence
    2. Mongul Dynasty, 1525 A.D. (Highest development)

MIDDLE AGES
Tights, Tunic, and Cloak

F. 1. Chinese *a.* Han Dynasty
b. Influence of Genghis Khan
2. Japanese
G. 1. Arabic (Saracenic and Sicilian)
2. Other Islamic influence (Turkish, etc.)
H. Early Italian
I. Renaissance (in Italy)
J. French
1. Gothic
2. Renaissance
3. Louis XIV
4. Louis XV
5. Louis XVI
K. Late French
1. Directoire
2. Empire.
L. English
1. Early (up to 10th century)
2. Renaissance
3. Flemish, Italian, French influence
4. Georgian (Individual)
M. Influence on Modern Dress.

RENAISSANCE

Classification. Since clothing is composed of different parts, we must know the style value and the use of each piece of wearing apparel as well as that of the complete costume, in order to understand the artistic value of clothing and to be able to use each piece to best advantage. As the characteristics of human nature are always the same, it is natural that if certain kinds and styles of wearing apparel have once appealed to the human mind, they will appeal again. Hence, styles of the past are constantly being revived with modifications to meet human desires. It will assist us in appreciating style value if we know to some degree the history of the different articles of wearing apparel. Therefore, we

shall discuss not only the uses and style value, but also the historical value of wearing apparel.

Clothing may be classified according to the use or part of the body it is to cover:

(*a*) Outer clothing includes suits, dresses, skirts, trousers, etc.

(*b*) Underclothing includes underwear, shirts, undershirts, men's outer shirts, etc.

(*c*) Protective clothing includes raincoats, sweaters, overcoats, wraps, capes, and furs.

In this chapter the clothing ordinarily used by women will be discussed, and later a chapter will be devoted to special parts of men's clothing.

Outer Clothing. Outer clothing, such as dress, skirt, blouse, shirt waist, etc., is what we wear in our homes and before our friends, and should always add to our feeling of well being.

As we examine the costumes of different periods we notice that they differ in the (*a*) length of the skirt, (*b*) width of the skirt, (*c*) length and style of sleeves, (*d*) different shapes and kinds of collars, (*e*) different kinds of waist-bands or girdles, and that they are composed of different kinds of fabrics. Certain fabrics are used advantageously for distinct style effects. In addition we note that some costumes have much and others little trimming, and that there are certain trimmings suitable for different fabrics. These details make the designs different. As we describe the different styles notice the points outlined above.

Dress. The principal outer garment is the dress or gown. In general terms, the word *dress* is applied to the ordinary outer wearing apparel, and *garment* to a dress that has been cut and fitted to the person. A *gown*, on the other hand, is either applied to an unusually fine and expensive dress or a garment more or less loose and hanging from the shoulders. It is also applied to a dress consisting of a skirt and waist or blouse as one or several pieces. The outer garment called the dress is descended from the outside tunic of the Greeks and Romans, when it was the dress of both sexes. We noted in a previous chapter that the tunic was introduced into England and became the ordinary wear of the natives, continuing in use with a wide variety of lengths and forms until the fifteenth

century, after which time its use as an outer garment came to an end.

At different times the word gown has been applied as follows: (1) a long and loose outer robe usually worn by men at the beginning of the fifteenth century and later, and by women continuously from the early Middle Ages; especially a garment meant to be girdled at the waist, somewhat close-fitting above, and large and loose below; (2) a long and loose over-dress worn on official occasions by clergymen, judges, college professors, and students.

The design of the dress, gown, or tunic of the past has been used in different forms of modern costumes.

To illustrate: (*a*) The *tunic* effect is secured when the material of a costume hangs straight from the shoulders without draping. It must fall in straight lines. So we may say that all wearing apparel composed of material hanging from shoulders in straight lines has a tunic effect.

(*b*) If a gown is composed of two colors, the after-image follows the direction in which the brighter color runs. For example, when the lighter color runs in the vertical direction, the after-image is elongated. If, on the other hand, the lighter color runs cross-wise, the after-image is one of width.

(*c*) The trail of the costume, called the *train*, has been considered one of the most graceful devices and is worn only on important occasions. Yet trains were worn on street dress in the early part of the twentieth century.

(*d*) The *drape* was a long fabric with a single hole for the left hand to go through; the remainder of the material was disposed of by allowing it to rest on the shoulder or belt.

(*e*) The *smock* is a piece of wearing apparel used to cover fine clothes or worn in place of the usual dress, with an opening under the arms to admit air, much like the costumes of old Indian cliff dwellers. It is ideal for health.

(*f*) A *toga* is a mantle of dignified and magnificent proportions, which was worn to show class distinction.

If we note how the style of dress differs at different times, we shall find differences especially around the neck and sleeves. Sometimes there is a high collar; at other times the neck is open. From 1912–1927, the open-neck dress with different shapes was in vogue

The hem line or bottom of the skirt may be (*a*) even, (*b*) uneven, (*c*) long or short, (*d*) tight or loose. We may speak of uneven silhouette, or line of a silhouette that is longer in the back than the front.

COLLARS, CUFFS, AND SLEEVES

Sleeves. The sleeves are one of the most important parts of dress, as their appearance affects the whole figure. Hence it may not be out of place to give their history and describe the artistic value of different kinds of sleeves.

Sleeves were developed in about the same way as stockings — first by introducing bands which covered the limbs to keep out the cold but gave that freedom of action to both arms and legs which man could not have when he wrapped himself in the flowing robes and mantles of early times.

Later, hose for the arms became almost as common as for the legs and fitted just as closely, but went from tight-fitting fashion to the other extreme when flowing sleeves were introduced and have held their own side by side with the tight variety ever since.

The toga of the Romans was not fitted with a sleeve, although when worn it gave the impression of forming a short sleeve for the right arm, while it covered the left down to the elbow.

The length and shapes of sleeves have changed, from the long and short, large and small; each season sees a slight change so as to make last year's gown out of date. Remember that sleeves have a way of remaining in obscurity for a time, and then suddenly they assume considerable importance in the mode.

Plain sleeves which follow the lines of the arm emphasize the long lines in the silhouette and are usually most becoming to the woman with a short or large arm. On the other hand, wide, flowing sleeves give width to the whole figure, as do those with conspicuous trimmings or decorations.

Note that a very slender arm is not attractive in a sleeve of transparent material, which makes its thinness more apparent. The woman with large arms should be careful not to have her sleeves fit too tightly, for this will make them appear even larger. The slashed sleeve is a decorative device to show either undergarments, arms, or trimmings, and has appeared at different times.

Cuff. The cuff is a distinct terminal part of the sleeve at the wrist, intended for ornament; specifically, a band of linen, lace, or the like, taking the place of and covering a part of the sleeve. In the seventeenth century such cuffs, worn by ladies, were often extremely rich, of expensive lace, and reached nearly to the elbow. Plain linen cuffs were also worn about 1640 and were especially affected by the Puritans in England and America. When the plain linen wristband attached to the shirt worn by men first came into use in the early part of the nineteenth century, it was commonly turned back over the sleeve, and was a true cuff. In recent times the name cuff has come to be applied to a separate band of linen (or other material) worn about the wrist appearing below the end of the sleeve.

Waist and Skirt. In the development of the tunic it eventually was divided into two pieces: the upper part called the *waist*, shirt waist, or *blouse*, and the lower part the skirt.

The term waist has been loosely applied to many uses. For example: a loosely fitting garment covering the waist and the trunk, usually having sleeves and finished either with or without a collar; then again, to a knitted or woven undergarment (worn especially by children) to which petticoats and drawers are buttoned. At one time it applied to the bodice of a dress, whether separate from the skirt or joined to it, and was called a corsage or *basque*.

The shirt waist was once popular, and the name was applied to a garment for women's and children's wear, resembling a shirt in fashion, but worn over the underclothing and extending only to the waist, where it was commonly belted under the skirt.

The *blouse*, on the other hand, is looser than the shirt waist and extends over the skirt to give a long-waisted effect. A modified form of a blouse called a *tuck in* goes under the skirt in order to give a higher waistline. A blouse and skirt is sometimes called a two-piece suit.

The line of the sleeve that ends at the elbow appears as the continuation of the waistline and adds to the width of the person, therefore a stout person should not wear short sleeves.

Very light and very loose blouses give the appearance of added weight, and coats that end at the hip-line, and loose, flaring capes increase width. If the sleeves are dark or tight, then the after-image is elongation.

Skirt refers to the whole or part of the wearing apparel below the waist. The term may also be applied to the lower and hanging part of a coat or other garment.

The skirt as a separate garment was invented so that there might be a break between the upper and lower part of the garment, and this space allows the skirt to be adjusted so that the skirt part of the costume may be flat against the hips.

At different times skirts have changed in style so that there have been (1) full (wide) and long, (2) full and short, (3) scant (tight) and long, (4) scant and short. A divided skirt is a style of dress for women, recommended on hygienic grounds, in which the skirt resembles a pair of exceedingly loose trousers. The proper skirt length is that which harmonizes with the individual figure wearing the gown.

Skirts should be made in proportion to each woman's height, and the waist is then raised or lowered to suit each woman's figure. The waistline may be lowered until it actually disappears, or the waistline may be a demarcation due to the cut and trimming.

A very tight skirt, called the hobble skirt, that was really dangerous because it prevented one from walking naturally, was a passing fad in 1910. Later the tight skirt (less than a yard around the bottom) was cut and called a slit skirt. The short skirt, that is, the knee-length skirt, was first introduced by progressives as a rainy-day skirt. Skirts reached the ankles in 1919, and called for $5\frac{7}{8}$ yards for a dress. In 1927 they ended fifteen inches or more from the foot and called for only $4\frac{1}{8}$ yards of cloth.

Bustle. The bustle is a device used by women during the last

few centuries to assist in adapting the human figure to the prevailing style. Originally in the sixteenth century it was a flexible strip of whalebone, or stiffened body-garment or bodice, used by fleshy ladies to keep the body straight. During the past century it has been used as a sort of padded cushion or a curved framework of wire, worn by women for the purpose of improving the figure, causing the folds of the skirt to hang gracefully, and to a certain extent preventing the skirt from interfering with the heels in walking. During the past generation it has not been used, although it returns in one form or other in evening dresses. The skirt opening, called the *placket* opening, was placed at the left of the bustle, and was closed with hooks and eyes. Petticoats (at least two) were heavily starched and embroidered and used with the bustle.

Bustles were fashionable in the seventies and eighties as aids to modest clothing, even if they were hideous.

Apron. The apron is one of the oldest pieces of wearing apparel, dating back to the clothing of our first ancestors. The Greeks and Romans used richly embroidered aprons, and they have continued to be used by women and sometimes by men when engaged in labor or as an emblem in some uniforms. The apron varies in size and shape and decoration according to the use and the occasion. It gives a distinct style effect that impresses one with the dignity of labor.

Girdle and Belt. This is a band drawn round the waist and fastened. It is frequently used in women's dress and in military costumes. At present it is commonly known under the name of belt or sash. The ancient use of the girdle was to confine to the waist the long flowing garments then worn, and in some countries it is still used for this purpose by both men and women. It was once an article of universal wear, and varied in richness with the position of the wearer. Some were simple leather bands; others were of great width and of costly materials, lavishly overlaid with jewelry and precious stones, furnished with a costly ring for the passage of a tie, and the ends long and richly ornamented. All kinds of things were carried at the girdle — purses, pockets, scissors, watches, and keys.

Belt or Waistline Finishes. The belt or waistline usually has a device to mark its place, called a waistline finish. There are styles

that call for pronounced waistlines, while there are others that do not show a waistline. Between these two limits we have all types of finishes.

The following devices should be considered: Narrow, inconspicuous finishes should be chosen by the woman who is short, or the woman who is ill-proportioned, or one who has a large waistline. Wide belts or interesting and conspicuous decoration at the waistline may be chosen by the tall, slender woman, or the little woman. Women with large hips may make their figure appear in better proportion by wearing loose belts or softer finishes at the waistline.

Collar. Collar is a term applied to various forms of bands and ruffs worn about the neck, either for convenience or for ornament; as the neckband of a cloak, coat, or gown, either standing or rolled over. Collars were first worn in Europe in the sixteenth century. Since their introduction they have varied, at the caprice of fashion, from the plain band, which was nothing more than the simplest of collars, to elaborately-trimmed falling bands, ornamented with lace and needlework and falling far over the shoulders. The term is used to describe all forms of made-up neckwear, from the soft, flimsy creations of lace, silk, velvet, and embroidery, to the starched linen band.

Scarf. This is a narrow band or strip of cloth, usually of fine, soft texture, used as a decorative accessory to costumes, and sometimes put to practical use on the neck, etc.

The term scarf has had other meanings, such as: (1) A strip of warm and soft material, as knitted or crocheted worsted, worn around the neck and head in cold weather.

(2) A cravat so worn that it covers the bosom of the shirt whether it is passed through a ring, or tied in a knot, or put together in a permanent shape and fastened with a pin or a similar appliance.

Scarfs may be of two styles: (*a*) ordinary and (*b*) sport scarfs. The ordinary scarf is really a trimming that ties at the shoulder, neck, or hip line. The sport scarfs are usually elaborate, sometimes hand-blocked. The manipulation of one or more scarfs allows for unusual combinations or patterns. The borders of these scarfs are arranged so as to make fine trimmings.

Cravat. The cravat, sometimes called a necktie, is a piece of

satin, silk, lawn, or other material worn by men and sometimes by women, generally outside a linen collar. The modern cravat, or cravat-string, is essentially a necktie, passed once around the neck and tied in front in a bow. In 1840 and earlier the cravat consisted of a triangular silk kerchief, usually black, and was passed twice round the neck, in imitation of the stock. At present the cravat differs properly from the scarf, which latter (whether tied, or passed through a ring, or held by a pin) hangs down the shirt-front. The date of the origin of the cravat is assigned to 1636, in which year a regiment of Cravates or Croatian soldiers (from Croatia, Austria) arrived in Paris for military duty. In the dress of the soldiers one feature was much admired by the Parisians — a bright-colored neck-wrapper of silk worn by the officers, and of muslin by the men, alike tied in a bow with pendant ends.

Stock. This is a stiff band of haircloth, leather, or the like, covered with satin, cambric, or similar material, and made to imitate and replace the cravat or neckband; formerly worn exclusively by men, and in various forms still in military use. In the eighteenth century the stock was often fastened behind with a buckle of an ornamental design. By extension, it has come to include a high, stiff collar of muslin, lace, ribbon, etc., worn by women.

Neckcloth. This is a folded cloth worn around the neck, as a band or cravat — an article of dress which replaced the ruff and falling band, and formed a marked feature in the fashionable dress of men in 1740 to 1775. Throughout the eighteenth century the ends were commonly of lace and fell over the breast. Later, and down to about 1820, the neckcloth was plain and composed of fine white linen.

The neckerchief is not an article of clothing for the South but for the North. It is made of either a woven or knitted fabric. The collar was unnecessary in warm climates and developed from the neckerchief when it was combined with the garment. Garments with round openings at the neck are the best.

The collar has not done away with the neckerchief, which is worn underneath the collar as a tie, or as a muffler outside the collar. The collar has been very prominent in fashions.

Hosiery. The name *hose* was first given to a garment covering the legs and waist, worn exclusively by men. The hose of the

fifteenth and sixteenth centuries were made of cloth and generally covered the person from the waist to the ankles; often they were so finished as to cover the feet also. Near the end of the sixteenth century leg-coverings were divided into two parts, and designated by different names, the part covering the foot being called *stocking*. The word *breeches* was applied to the upper garment. Early in the seventeenth century the hose, or trunk hose, as they came to be called, were of enormous dimensions, and constructed of rich materials, such as silk, satin, velvet, and brocade, a fashion which in England began in the reign of Henry VIII. During the time of James I hose came to be, both in form and name, breeches, and what for centuries had been known as hose came to be generally called stockings. The word hose is now used to designate knitted covering for the feet and lower part of the legs.

Until the beginning of the sixteenth century — the time when knitting was invented — stockings were fashioned of various kinds of cloth, as jean, fustian, blanketing, etc., and were cut out and seamed by hand after the manner of the hose of that period. With the invention and spread of the art of knitting, cloth stockings gradually disappeared. Silk stockings were unknown previous to the middle of the sixteenth century, and a pair of long Spanish silk hose at that day was considered a donation worthy the acceptance of a monarch. Queen Elizabeth set the fashion for silk stockings in England about the year 1575. Her silk woman, Mistress Montague by name, presented the queen with a pair of black silk knit stockings which required this accomplished knitter two months to complete, and which so pleased her majesty that she never afterward wore any other kind.

Handkerchiefs. One of the important parts of a costume is the handkerchief. Its history shows that it is more than a charming accessory of dress. It is something so intimate, something so peculiarly personal, that it has almost been idealized.

There was, of course, a time when handkerchiefs, as we know them today, were not used. Before handkerchiefs came kerchiefs, which were head coverings. Savage races wove grasses into small mats and both wore them on the head and used them to wipe the sweat from their brows. From so modest a beginning did we derive both handkerchiefs and hats. So we can say that *kerchief* is a term which

originally meant a cloth to cover the head, composed of a simple square or oblong piece of linen, silk, or other material, and worn folded, tied, or pinned so as to drape the head and shoulders. At present, any similar square of linen, cotton or silk worn on or used about the person for other purposes than for covering the head is called a handkerchief.

In ancient Greece and Rome handkerchiefs were known, and were simple squares of linen, usually tucked beneath a girdle. Beginning about the sixteenth century, silk handkerchiefs, embroidered and fringed, or laced with gold, were known in England under Queen Elizabeth. The development of the handkerchief about this time became rapid, and in France particularly it reached an elegance hardly conceivable. In the seventeenth century it was made of exquisite handwrought laces, and sometimes even ornamented with gems. In the eighteenth century when the taking of snuff became an established custom, women began to use colored handkerchiefs, usually of silk, though cambric was also used.

The shape of the handkerchief was fixed by royal decree, and usage has perpetuated the form. At one time handkerchiefs were of any shape that individual fancy dictated — oval, round, or oblong. One day at the Trianon, Marie Antoinette happened to mention to Louis XVI that she was tired of these various shapes. The king at once decreed that " the length of handkerchiefs shall equal their width throughout the kingdom," thereby settling the matter for centuries. Now, however, standardization has come to an end. Handkerchiefs are appearing in odd shapes and in all colors, as well as in the conservative squares.

The empress Josephine was lovely, but her teeth were not perfect, and in order to conceal them she used a small lace handkerchief, which she raised constantly to her lips. The ladies at the French court at once adopted the fashion and handkerchiefs came into general use. Soon their convenience recommended them so highly that all the ladies and gentlemen connected with the various European courts adopted their use. The fashion thus introduced by royalty was soon taken up by the under ranks, till today the handkerchief is an indispensable article of apparel.

In the line of handkerchiefs, all plain-weight hemstitched linen goods are called " staples," and the demand for them varies

but slighty from one year to another. " Finish " is everything to a linen handkerchief, and upon it, more than anything else, depends the price which the goods will bring. The raw material may be of the very best quality, but if it does not possess the requisite finish the chances of its finding favor are very small indeed.

Handkerchiefs follow the fashion both in coloring and fabric. There are varieties of handkerchiefs of different kinds and purposes. For evening there are lovely little square ones in ombre tones of orange, red, blue, and rose, and dainty white ones with pink rosebuds as a border design. Others are shown with white centers having large flowers in brilliant colors in a scatter design. All have hand-rolled hems, the white backgrounds being emphasized by the black hems. Plaid silks with a different design in each corner are seen in many color combinations and are especially attractive with sport clothes. Japanese designs with more than a suggestion of the futuristic are noticed in many handkerchiefs. One part of the design is composed of varied colorings, which gradually merge toward the center and then take on the form of Japanese pond lilies, lanterns, and scenic effects. All of these handkerchiefs are color-fast.

Protective Clothing. The principal protective garments for women are (*a*) coats, (*b*) cloaks, (*c*) manteaux, and (*d*) capes.

Coat is a term used to refer to the principal outer garment of men and women. In the early Middle Ages it was identical with that which is now called a tunic, or sometimes with the cassock. Coats of modern form, fitted to the body and having loose skirts, first appeared in England during the reign of Charles II (1660–1685).

Coats vary in shape and material. They may be composed of all cloth or all fur or a combination of both. The principal fabrics for coats are woolens.

Cloaks. A cloak is simply a draped fabric thrown over the shoulders, while a costume is a garment over the shoulders with sleeves or arm holes. The sleeves may be plain, puffed, or slashed.

The cloak when first used for a garment was bell-shaped and without sleeves (hence the name), worn by either sex as a protection against the weather; at present, however, the term is used for any sort of sleeved wrap, long or short, worn by women. Though a garment of great antiquity, cloaks have in the course of many

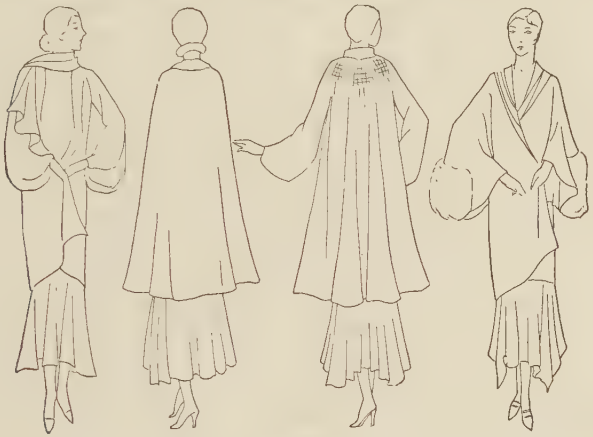
centuries varied but little, save in being at times short or long, ornamental or useful. They have frequently been common to both sexes, and by English laws of the time of Edward IV (1441–1483) were legally regulated as to the length they should be cut and who should wear them. Then, no person under the degree of a lord was allowed to wear a cloak which was not of definitely defined length. The fashion of wearing short cloaks has frequently recurred, and cloaks of light and costly materials have been worn by men, particularly in the courts of the early Stuarts. It was one of these latter garments which Sir Walter Raleigh gallantly threw upon the muddy ground that Queen Elizabeth might pass with dry shoes, which act of gallantry ingratiated him into the Queen's good will and brought him life-long favors. Under the name of Spanish cloak this garment was worn from about 1800 to 1840 in Great Britain and America, the shape being a half-circle; it had a broad collar, often velvet or fur, which was continued down the edges of the cloak on both sides. The same garment is still worn as the most common winter dress in Italy.

Manteau is the term applied to a woman's cloak or mantle, particularly to one that is open in front, displaying the skirt or petticoat. The manteau was first introduced into England by Henrietta, Queen of Charles I, who is also credited with the introduction of female labor for making the outer clothing for women.

Mantle is a loose, sleeveless garment worn as an outer covering, falling in straight lines from the shoulders — a simple form of cloak. Mantles were originally mere pieces of cloth of suitable size and shape, the upper corners of which were brought together and fastened at the neck or on one shoulder, with the loose edges lapping in front or at one side. The modern mantle for women's wear is commonly cut to fit more or less snugly across the shoulders, hence falling in straight lines almost to the ground. The Duchesse mantle, a large, loose cloak of silk, was worn by women in this country from 1868 to 1875. The Empress mantle, a kind of *bournoose*, was a popular garment about 1860. The Watteau mantle, worn about 1865, was distinguished by a Watteau back and other resemblances to garments represented in the pictures by Watteau, the French painter.

A *mantelet* is a short cloak or mantle.

Cape refers to a circular covering for the shoulders and adjacent parts, either separate or attached to the top garment; any short, circular garment hanging from the shoulders, without sleeves, worn for ornament or as a protection against the weather.



CAPES

When the Romans made their conquest of the North they noticed the natives wearing a coat or cloak as a protection against the weather. It became popular at Rome in the second century and took the place of the toga. The original form was an oval coat held together over the chest or shoulders by a thorn. In order not to interfere with the movements of the arm, the cloth was thrown back over the shoulder. Soldiers wore this open, while the ordinary people wore it closed in cold weather.

A cape is a very individualized sort of thing, and it is not the most comfortable thing to wear. It requires a little experience to know just how to manage it.

The wraps made from 1865 to 1870 were chiefly circulars, jackets, and capes. In 1875 the popular style was a long coat, or cloak with very loose sleeves called a *raglan*. This was followed in 1879 by the *dolman*, and the latter in 1883 was superseded by the *Newmarket*. In 1880 plush sacques were first worn.

Robe is a term at present admitting of numerous applications. It

is used indiscriminately to designate any long, loose garment, and even dress or costume in general: as, bride's robes; infant's robes; confirmation and coronation robes, etc.; hence, any garment or covering used to invest or protect the person, or which resembles or suggests a robe. In trade and dressmaking, the term is applied to garment material either made up or in the piece, or to a garment of any style or material, though usually to a garment of a more or less elaborate character. In the fur trade, the term meaning dressed skin or pelt was first applied to that of the American buffalo, but now it signifies the skin of any animal which is used as a covering while sleighing as a protection from the weather, and then, by extension, to a protecting wrap used in driving, whatever the material, as, a linen lap robe. An infant's robe is a long outer slip or gown, extending from the neck to well below the feet, usually made of batiste, with a yoke and variable trimming of lace and embroidery. Slumber robe is a name applied to a heavy ornamental covering made in the form of a single blanket, used to throw over couches, chairs, settees, etc.

The Shawl. The shawl was used by the Egyptians, who wore a mantle with fringe. The name "shawl" is a Persian term for a mantle. It is a square or oblong article of dress, forming a loose covering for the shoulders, worn chiefly by women, but was worn by men during the Civil War. Shawls are made in a wide range of sizes and are composed of different materials, such as silk, cotton, hair, or wool; and, occasionally, they are woven of a mixture of some or all of these staples. The shawl is supposed to have originated in Persia, in which country, as well as in India, it has from time immemorial constituted the most characteristic and important article of dress among the natives. Essentially, the same piece of clothing, but in various forms and under different names, is found in all parts of the world.

The *Cashmere shawl* is characterized by the great elaboration and minute detail of its design, in which the "cone" pattern is a prominent feature, and by the glowing harmony, brilliance, depth, and enduring quality of its colors. Apart from shape and pattern there are two principal classes: (1) The loom-woven shawls called *tiliwala*, sometimes fashioned in one piece, but more often in small segments which are sewn together with such precision and neatness

that the seams are quite imperceptible; such loom-woven shawls have borders of silk, the weight and stiffness of which serve to stretch the shawl and make it set properly. (2) Embroidered shawls called *amliker*, in which the fine twilled ground is worked by a needle into a minute and elaborate pattern. Imitation Cashmere shawls are made at Lyons and Nîmes in France, at Norwich, England, and at *Paisley*, Scotland. Some of the products of these localities are but little inferior in beauty and elaboration to oriental shawls; but owing to the fluctuations of fashion there has been little demand for the finer products of European looms for many years.

The name Cashmere is also used to designate a variety of light weight, plain-colored shawls made of twilled cashmere dress fabric. These are commonly dyed black and fringed and are worn especially by elderly women.

The *Shetland shawl* is a fine, light-weight knitted or crocheted variety, made by the inhabitants of the Shetland Islands. These fabrics have long been in favor for their warmth and exceeding lightness.

The *shoulder shawl* is a small square variety made both of cotton and of wool, dyed in plain colors and ornamented with simple patterns of checks and stripes. It is also called a breakfast shawl.

COAT AND MUFF

The Muff. A padded case or cover into which both hands might be thrust to keep them warm has been popular at different times in history. It is commonly of a cylindrical form and made of fur, velvet, silk, plush, etc. The muff was first introduced into Venice in 1499. It was not until the seventeenth century that it became known and used in other parts of Europe. At this time it was comparatively small in size, and was made exactly the reverse of its present form, the covering being composed of rich and costly brocade and the fur used merely as a lining. It is said the fur was placed

on the inside on account of the popular belief that it kept the hands beautifully white and soft. Toward the end of the seventeenth century it was the common custom for men to carry muffs, particularly while attending ceremonies and entertainments; frequently they were enormous affairs of leopard or tiger skin attached to a silken riband which was passed around the neck. From early in the seventeenth until the beginning of the nineteenth century, the muff was regarded with disfavor by women, but for nearly a century after, since 1810, it was in continuous use as an article of winter attire. What is known as the shell muff is a variety made in a flattened form, with flaring ends usually pleated or puffed and lined with richly figured silk or satin.

It is interesting to note the diversity of the protective apparel worn on a stormy day.

For the kiddies and juniors bright plaid raincoats with matching hats and umbrellas are popular. Misses select the blue, green, red, or mauve rubber coats, while women prefer the new pastel colors, with the result that on a rainy day our streets present a colorful appearance which forms a pleasing relief to the gloomy surroundings.

Veils. In modern use, the veil is a piece of gauze, barege, net, or similar fabric, used to cover the face, either for concealment or as a screen against sunlight, dust, insects, etc. It is one of the most ancient articles of feminine attire and for centuries has been a necessary part of the costume of a nun. Veils were at one time worn by men. Thin veils of gauze, or of some transparent substance, were in use among the Jewish women as early as the time of Solomon: to this ornament, apparently, he alludes in the Canticles, where, speaking of the bride, he says, " Thine eyes are like those of doves behind thy veil." Every woman of rank or character in the eastern part of the world appears veiled before the eyes of men. With them, the veil is considered a protection to their sex; and therefore, removing it or turning it forcibly aside is conceived to be the highest insult that a man could be guilty of toward a woman, an affront of this character on the part of a stranger being often punished by death. Their use is now extended so that veils are found in every part of the civilized world. The custom for the bride to wear a veil at her wedding originated in the Anglo-Saxon manner of performing the wedding ceremony under a large veil,

or square piece of cloth held at each corner by a tall man over the head of the bride, to conceal her virgin blushes; but if the bride was a widow the veil was esteemed useless.

Mantilla. This is a woman's head-covering, often of lace, which falls down upon the shoulders and may be used as a veil, worn in Spain and the Spanish colonies, in Genoa, and elsewhere. There are three kinds of mantillas which form the toilet of the Spanish señorita. The first is composed of white blonde, used only on state occasions, birthdays, bullfights, and Easter Monday. The second is black blonde, trimmed with deep lace. The third, which is used for ordinary wear, is made of black silk, trimmed with velvet. The Spanish woman's mantilla is held sacred by law, and cannot be seized for debt.

The Sweater. This was originally a tight-fitting rib-knitted woolen jacket, made without any opening in front, but sufficiently elastic to admit being drawn on over the head. It was worn with some variation as to form by both men and women. Since 1890, the sweater has been a popular garment for outing wear, and particularly for bicycling, rowing, gymnasium work, etc., having quite superseded the cardigan jacket for these purposes.

SWEATER

Petticoat. A skirt; formerly the skirt of a woman's dress or robe, frequently worn over a hoop or "crinoline," now, an underskirt worn by women and children. Although the petticoat has been relegated to an inferior position among feminine wearing apparel, nevertheless it will continue to be used and is being made of wool, silk, rayon, cotton, etc.

The Hoopskirt. This is a petticoat stiffened by means of hoops of whalebone or steel and used for the purpose of expanding the skirt of a woman's dress. The hoop or hoopskirt was evolved from the farthingale of the sixteenth century. The ancient farthingale was composed of stout hoops of whalebone run into a cloth foundation. When, in 1590, they first began to be worn they were of modest dimensions, but gradually increased in proportions until, in 1610, they were immense and ridiculous. In France, farthingales reached such a degree of inconvenience that the king forbade

the women of his realm to wear them larger than an ell and a half in circumference. The only effect this edict had was to cause the dimensions to increase more and more. Finally, in 1675, the fashion of wearing farthingales died out. The hoopskirt next came into favor — about the year 1740. This was made in the form of a bell-shaped skirt, enormously expanded by means of wire hoops fastened at intervals upon the cloth. There was then a cessation and the fashion slumbered until 1852. In 1855 a hoop band was placed about the waist, to which huge hoops of whalebone were attached, gradually widening in circumference as they descended to the floor. A valance of lace and lawn was attached inside to conceal the effect when one bent over. This passed out in 1863, when crinoline petticoats were introduced. In order to inflate skirts, crinoline petticoats made with many flounces and stiffened with whalebone were used.

The original material, crinoline, composed of horsehair and linen, was first introduced in 1852, and was used almost exclusively for making women's stiff skirts, or " crinolines," as they came to be styled. When this fashion was followed by that of wearing greatly projecting skirts made of a frame-work of wire hoops, the word crinoline continued to be used to designate the newer article. In this sense it was used until 1875, when the word " hoops " came into vogue. The first crinoline skirt for expanding the dress was invented in 1856 by Empress Eugenie of France, and was adopted by Queen Victoria when Princess Beatrice was expected. The fashion thus set by royalty was speedily adopted throughout Europe and America and rapidly underwent the usual exaggeration, until crinolines attained such enormous dimensions that they became not only inconvenient but ridiculous. In 1868 the fad died out, not to be revived again till 1880.

Those who did not take kindly to the steel hoops wore numerous petticoats with stiffened flounces. It was not unusual between 1860 and 1870 for belles of fashion to wear as many as fourteen stiffly starched petticoats with the ball gown. The crinoline was of slow death. It was not until 1871 that the hoopskirt and crinoline entirely diappeared. During the period of its survival there were numerous variations in its shape and form, constant effort being made to bring it within the bounds of comfort and good taste.

In 1880–85 the hoopskirt was revived in the form of tilters, which were comparatively narrow and expanded the dress skirt only at the back and bottom.

Hoops and crinolines lift the skirt so that the wearer has a wonderful feeling of lightness and moves with perfect freedom. It is like floating around.

UNDERWEAR

Underwear refers to the various pieces of underclothing worn by both men and women: as, the drawers, undervest, undershirt, chemise, nightgown, corset cover, skirt, etc. Under the term knit underwear is embraced drawers, vests, shirts, and union suits for both sexes, knitted of cotton, linen, wool, rayon, or silk, or of intermixtures of these fibers. Muslin underwear embraces a wide variety of underclothing for women made of various kinds of bleached cotton fabrics, as muslin, cambric, mull, nainsook, etc., and including such garments as the drawers, chemise, corset cover, underskirt, nightgown, etc.

Union Suit or union underwear is a style of underwear for both men and women, in which the shirt and drawers are combined in one garment; also called combination suit.

Under Vest is an undershirt that is a low-necked, close-fitting knitted shirt worn next to the skin. Specifically, a knitted undershirt for women; often shortened to vest.

Nightgown is a nightdress for women, covering the whole person. A nightshirt is a similar garment for men.

Chemise is a short, loose-fitting, muslin, silk, or rayon undergarment worn by women. In the French language the word means "shirt." Of the two names, shirt and smock, given at a remote period to this garment, the first was common to both sexes, as chemise is today among the French. In time, shirt became confined to the man's garment and smock to the women's. Women have returned to shirt again, merely giving it the French name — chemise.

COSTUME SLIP

Chemisette is a form of collar worn by women for covering the neck and bosom, made of light, sheer material, such as lace, cambric, madras, etc. Generally when chemisettes are in fashion they are worn under a waist cut low at the throat, and are shaped to imitate the exposed portion of a man's shirt-bosom.

Slip is a garment or covering so constructed as to be easily slipped on or off: that is, (*a*) a frock or outer garment for a child, usually made of muslin and variously ornamented; (*b*) the simple garment worn by infants at night, commonly called night-slip; (*c*) the petticoat worn under the dress; (*d*) an underskirt of colored material worn with a semi-transparent outer dress, and showing faintly through it; (*e*) a loose covering or case, as, a pillow-slip.

PAJAMAS

Pajamas consisting of a shirt and trouser-like wearing apparel have taken the place in some cases of nightgowns.

Under Garments Adaptable. Underneath the dress either an under-dress called a petticoat or a short, pant-like garment called bloomers is worn. It is obviously necessary to have these parts of clothing opaque — shadow proof — hence the fabric must be closely woven and thick enough to have body. The underclothes should not interfere with outside clothing. The character of these two pieces of clothing depends on the prevailing style. To illustrate: If the style tends toward narrow-skirt dresses, the petticoat must naturally cling to the body and be soft, so as not to interfere with the tightness of the skirt. On the other hand, if the skirt of the dress is wide — called bouffant style — then the skirt must be composed of stiff fabrics that can be made wide, otherwise the overdress or skirt will sag, due to lack of support in underclothing. The cotton fabrics adapted are sateen, poplin, cambric, longcloth, etc. Jersey, crepe de chine, taffeta, satin, etc., are the silk fabrics.

Corsets. There is no other garment in common use which has been so ridiculed, condemned, and scoffed at, as the corset. It has, on more than one occasion, been forbidden by rulers of the times. It has had such an interesting history that it may not be out of place to give a brief outline of its development. It has occupied a place in women's clothing for over 2000 years, and will no doubt always continue. Who first conceived the idea of the corset, and who was the first woman to wear it, is one of the mysteries of the remote ages, but it is certain that corsets were known and in use as far back as the time of Cleopatra (69–30 B.C.). These articles, however, bear but little resemblance to the corset of today, being more in the nature of bandages than of actual stays, and for twelve centuries the bandage held sway. The next radical change was made in the twelfth century, during the reign of Louis VI.

The history of costume shows that at the beginning of the early Renaissance the "natural figure" notion was discarded, and the idea of giving artificial shape to the feminine form was suggested. The stiffened device of the corsets of that time was made in two separate parts, reaching from the bust to the hips. This form may be said to be the beginning of the modern corset. It was not, however, until the close of the fourteenth century that a corset was introduced which really adapted itself to the figure. This style instead of being used as an undergarment, as at the present day,

was worn outside the clothes. It was laced open in front, so as to show the embroidery on the waist underneath. In France it was received with great favor, and at one time became such a fad that even men wore it. This form of corset retained its popularity for almost one hundred years, and up to the end of the fifteenth century, when an abrupt change took place in woman's costume. Among the innovations was a modified corset, made in the shape of two oval sides carved out of wood, and joined together at the back with heavy strips of linen. Round holes were cut in the top of each side in front as a protection against crushing the bust, and the wood was lined inside with velvet. This " pair of corsets " reached from the neck to the waist and over the hips. The idea of a curve did not apparently suggest itself to the inventors, the sole purpose being to give the wearer a straight and tapering appearance from the shoulders to the waist. A number of holes were bored through the edges of the wood, and by this means the corset was laced as tightly around the body as the health of the wearer would permit. It was considered stylish to look as slender round the waist as possible, and during the years these wooden corsets were worn many women succumbed from the effects of tight lacing. About this time (1520–1600) the first steps were taken in England toward a corset that would give the wearer a rounded form, and resulted in a contrivance of thin metal slats in the shape of lattice work, known as the " iron corset. "

The height of folly and the extreme of suffering as a result of corset wearing occurred during the reign of Catherine de Medici of France and her English contemporary, Queen Elizabeth. Catherine de Medici was a woman of unequaled vanity. If the women of her court wished to find favor in her eyes, their waist measure must not exceed thirteen inches. The woman who could not span her waist with her two hands was thought to possess a poor figure. To get down to thirteen inches and stay there was a process of constant acute torture. Corsets were laced by serving-men in many instances, the strength of the women being insufficient to bring about the required tightness. Not content with inflicting this torture, Catherine introduced a rolled steel cage or corset-frame which held its victim's body in a vice-like and perfectly rigid grip. Its purpose was not so much to compress the waist, as

to hold it inflexible after it had been compressed, so that the dress bodice might fit without a wrinkle.

The court of Elizabeth was quick to pattern after the French in manner of dress, and both sexes of England's nobility forced their frail bodies into the unyielding corset. Waist compression continued to increase for many years despite the protests of kings and emperors. No stiffer armor for the human body was ever invented than these deep-pointed bodices. As the fad increased, the death rate went up proportionately, and it was only by an order from the throne during the reign of Henry IV of France that the injurious fashion was stamped out. In the year 1600 the king issued an edict forbidding the wearing of corsets either in public or at home, and for a time this had the effect of suppressing their use in England, as well as in France. The women, however, endeavored to evade the law by having their dresses made with steels in the sides, so the waist of every dress was in fact very much like a corset. In this way the custom was kept in vogue until the death of Henry IV, when the practice of wearing corsets spread and became general among the poorer classes as well as the rich.

Early in the eighteenth century the whalebone corset was introduced, in a very primitive way at first, but was rapidly improved upon, until in a few years it had become a comfortable and beneficial support for the body. From that time forth, the corset became a recognized article of feminine dress. In 1810 the shape had been so altered that it was as wide at the bottom as at the top, and extended scarcely below the waist. By 1820 it had become so short at the top that over one-third of the bust was above it, and in order to keep it in position, whalebone of extra weight and strength had to be placed obliquely from top to bottom, and in rows around the edge. From 1825 to 1835, corsets were gradually lengthened, until once more they were very long both at the back and in front. From that time down to the present, they have been raised and lowered, expanded and narrowed to suit every fancy and every decade. Between 1840 and 1850 a vast improvement was made in the manufacture of corsets. They were designed on a more rational basis, thinner bones and softer materials were used, and the bust was furnished with hooks. Variations in the prevailing fashions have led to many modifications of supports.

Today corsets may be stiffened by strips of steel or whalebone, to support the body or modify its shape. When the style tends toward a modified form of corset, a sleeveless skeleton waist called a *brassiere* is used. A wide belt-like garment is worn around the hips and thighs in order to give an appearance of firmness to the body. This is called a *girdle,* and has, in many cases, been used in lieu of the corset.

Leisure Clothing. A form of house clothing for leisure worn by women is called *negligee.* There have been many changes from the *tea gown* of 1900 to the negligee of this day, which is intended in a way to serve the same purpose. When stays were worn and women had " figures," when a train was essential to a graceful costume, the tea gown was an impressive and wonderful affair. It was a costume calling for proper coiffure, shoes, and accessories. It was in a fashion quite as formal as a dinner gown, and for all its elaborate beauty somehow seemed never to spell ease.

A *dressing gown* is a loose and easy gown or robe worn by women while making the toilet, or when in *dishabille;* the term is also applied to a loose gown or long coat worn by professional men when in negligee or unceremonious attire.

A *dressing sacque* is a loose-fitting upper garment worn by women while dressing, and for lounging in; sometimes called dressing jacket.

Trouser-like Apparel. The history of costume in Chapter IV showed us that women and men have at different times worn similar if not the same clothing. Women wear trousers in China, men wear skirts in Scotland. In this country today men wear trousers and women wear skirts for ordinary dress. This has come to be the form of clothing worn by men and women, and any attempt to wear any other form of clothing has caused much commotion and has been spoken of as immodest.

In 1851, a woman named Bloomer attempted in New York state to wear black broadcloth trousers. Of course, skirts were worn over them, as far as the knee, and they were snugly drawn in at the ankles. So many of the leaders of the suffrage movement, including Lucy Stone, Susan B. Anthony, and Angeline Grimke, donned the costume that it was commonly supposed that the equal rights movement included the " pants privilege."

Bloomers had their first reincarnation about forty years later, in 1891, when bicycles became popular. In this period ankle extensions of bloomers were used. Later, the garment ended at the knee, though the excessive fullness gave it a "plus four" effect which was perhaps two or three shades more conservative than the skirts of 1929. When the bloomers cropped up for the third time, a few years ago, they had their name changed to *knickers*.

Pajamas, a trouser-like apparel for night wear have gradually appeared as a very comfortable piece of clothing. Tea gowns are sometimes trousered.

Pantalets, a form or variety of drawers finished with a deep frill reaching to the ankle or nearly so, were worn by women and girls and were in fashion from 1835 to about 1860. Later, pantalets were worn over women's ankles in 1890 as a piece of modest clothing.

TAILORED BLOUSE

Tailored Costume. A tailored costume tends to make the outline of the figure prominent. Because of this, in order to be a success it must be fitted to the last inch of the individual figure. Tailored costumes cannot be successfully sold as ready-to-wear clothes. Years ago, tailored costumes were more generally worn than they are today, due to the fact that women wore tailored costumes whether they became them or not. But today people's tastes have been more highly developed, and they know attractive clothes at a glance. Of course, tailored costumes should be composed of fabrics that are quite firm, that is, cloth woven closely and the yarn highly twisted. The fabric may be English or French worsted.

THREE-PIECE COSTUME

The tailored suit should be in everyone's wardrobe. It is a costume which gives a certain style which nothing else can approach. Tailored costumes may be of strong stiffness or light stiffness with edges finished in different degrees of severity and more or less stiff trimmings.

The tailored suit with its fresh, white collar and cuffs, tight waist, simply cut lines, carefully assembled details, is one of the most popular costumes on the market — often called the *tailleur*.

Suits are used by women primarily for street wear. They may be of two kinds: (*a*) dress suits, (*b*) business suits.

Of course a suit will never look as attractive from an artistic point of view as a one-piece dress. A dress suit differs primarily in design from a business suit and the materials are slightly different in order to give the desired effect to the costume. A business suit is expected to appear smart, serviceable, and tailored.

QUESTIONS

1. (*a*) Describe the purpose of the shoulder cloth. (*b*) Did the cape evolve from this clothing device?

2. (*a*) What is a hip cloth? (*b*) What was the purpose of the loin cloth? (*c*) What garment evolved from hip cloth?

3. What kind of cloth would be used for (*a*) shoulder, (*b*) hip, (*c*) loin cloths?

4. (*a*) Explain the difference in dress at the Middle Age in Europe between men and women. (*b*) What was the beginning of trousers? (*c*) The coat?

5. (*a*) Divide wearing apparel into three classes according to the use on the human body. (*d*) What is the purpose of each class?

6. Explain the meaning of the following terms: (*a*) dress, (*b*) garment, (*c*) gown, (*d*) cloak, and (*e*) smock. How do the above garments differ from season to season?

7. What is the purpose of dividing a dress into a skirt and waist or blouse?

8. Explain the reason why garments should be long and have a distinct style appearance.

9. Name the different kinds of robes with uses and composition.

10. Describe the difference between (*a*) coat, (*b*) jacket, (*c*) waistcoat.

11. (*a*) What is a cuff? (*b*) State the artistic quality.

12. State briefly the history and artistic value of a girdle?

13. (*a*) What are the different neck decorations? (*b*) Why is the neck an important part of the body to clothe very carefully? (*c*) Describe briefly the history and uses of the collars.

14. Explain the purpose and artistic value of the scarf.

15. Give the difference between (*a*) necktie, (*b*) cravat, and (*c*) stock. State the historical and artistic value of each.

16. Explain the historical development of the skirt and state some of the artistic styles.

17. State the characteristics of the (*a*) hobble skirt, (*b*) short skirt, (*c*) hoop skirt, (*d*) bustle.

18. Give an historical sketch and the artistic value of the apron.

19. (*a*) Give the historical development of hosiery. (*b*) State why they have changed from mere covering of the body to the artistic part of the costume.

20. Tell the difference in manufacture and style qualities between seamless and full-fashion hosiery.

21. (*a*) What is the difference between a handkerchief and kerchief? (*b*) Give the historical development of the handkerchief and the artistic use.

22. (*a*) Trace the development of the hat. (*b*) State the points necessary to remember when selecting a hat.

23. What is the difference between (*a*) manteau, (*b*) mantelet, and (*c*) mantle? State the artistic value of each.

24. (*a*) What is a cape? (*b*) Give the historical development and the artistic value as clothing.

25. (*a*) Describe a shawl and state the artistic value. (*b*) Give a brief historical sketch of the shawl.

26. (*a*) What is a muff? (*b*) Describe the historical development of a muff. (*c*) What are the artistic points of a muff?

27. What is the difference between a (*a*) veil, (*b*) veiling, and (*c*) mantilla? State the artistic value of each.

28. (*a*) What is the purpose of leisure clothing? (*b*) State the artistic and practical purpose of such clothing.

29. (*a*) State the purpose of underclothing. (*b*) Why has underwear passed through many changes? (*c*) State the fabrics best used for underwear.

30. Define the following: (*a*) under-skirt, (*b*) under-vest, (*c*) underwear, (*d*) union suiting, (*e*) chemise, (*f*) chemisette.

30. (*a*) What is a slip? (*b*) State the purpose of such a piece of clothing.

31. What is the difference between (*a*) pantalets, (*b*) pantaloons, and (*c*) bloomers? State the practical and artistic value of this design in clothing.

32. (*a*) What is the purpose of the corset? (*b*) Give the historical development of the corset from early times, showing the style effects produced.

33. (*a*) What is the purpose of the sweater? (*b*) State the practical and artistic effects.

34. What are the conditions necessary to be considered " well-dressed "?

35. What are the characteristics of a business costume for women?

36. State the meaning of the expression " tailored costume " as applied to women's clothing.

37. What are the characteristics of good house-dresses or costumes?

38. Give the characteristics of evening costume.

39. What is the difference between dress and business costume?

40. Explain the expression " ensemble " in dress.

41. Describe the characteristics of clothing for girls.

42. (*a*) What is meant by protective clothing? (*b*) State the characteristics.

IN GRANNY'S DAY

CHAPTER VI

CLOTH FOR CLOTHING

Characteristics and Structure (Weave)

Importance. In order to know how to select and use clothing to advantage we must know something about the different raw materials and finished products that compose it, such as cloth, furs, leather, etc.

As clothing is made for the most part of fabrics called textiles, everyone should understand the nature and value of clothing material so as to buy with judgment and economy, and be a more intelligent consumer.

Clothing is selected for a definite purpose, such as (1) occasion, (2) type of person, and (3) to utilize a certain fabric. The artistic appeal suggests that clothing should be selected for style — which means "line," form, and color becoming to the wearer.

Cloth. What is cloth? It varies in composition, structure, and finish. If we look at a piece of muslin, broadcloth, satin, etc., we shall find that they differ in touch or feel, smoothness, warmth, shine (luster), etc. These differences are very valuable, since they allow us to have a wide variety of clothing.

If we examine cloth very closely, unraveling it, we shall find the yarn or threads are composed of short lengths called fibers. These fibers vary in nature but they can be twisted into threads that can be interlaced into cloth. The cloths differ because the individual fibers that compose the fabrics differ. Therefore it is important to study the characteristics of the different fabrics.

The kinds of cloths according to composition or nature may be divided into (*a*) cotton, (*b*) worsted, (*c*) woolen, (*d*) silk, (*e*) rayon, (*f*) linen.

Cotton. Cotton is valuable for clothing for the following reasons:

1. It is suitable for summer wear because it is cool to the touch, due to the fact that it is a conductor of heat, that is, it allows heat from the body to pass off.
2. It is reasonable in price, is very serviceable, and is adapted to a variety of purposes.
3. Any degree of body or thickness may be given to it after washing and rinsing by the addition of sizing, starch, etc.
4. It shrinks only when it is loosely woven, due to the loss of sizing.
5. While it crushes and wrinkles easily, it does not lose its shape.

Other qualities important to note are:

1. In many cases it is not fast to bright colors, except when vat and sulphur colors are used.
2. It requires frequent washing and starching, hence involves much labor, which makes it unpopular with many people.
3. Often cotton cloth is destroyed by what is called " mildew," which is caused by little living plants called moulds or bacteria. These appear on cloth that has been allowed to remain damp for a time and live on the cloth and starch. This may be prevented by adding to the starch or sizing of the cloth a small amount of an antiseptic like zinc chloride.

Cotton fabrics vary in fineness according to the fineness of the thread or yarn that composes them. The fineness of the thread depends upon the length of the cotton fiber: the longer the fiber, the finer the yarn or thread. Long-fiber cotton costs more than short-fiber.

The strength of the fabric depends upon the closeness of the thread and the degree of twist in the yarn or thread. The finer the thread the closer the weaving that is possible.

Cotton is raised by farmers in the warm parts of the world and the length and growth of the fiber depends upon the climatic conditions, such as warm days and cool evenings and proper rainfall. If the climatic conditions are not proper, then there is a scarcity of both the quantity and quality of the fiber.

Cotton has suffered more than any other fabric from the change in fashion. Changes in the length of skirts and sleeves, the straight-line dress design, the decrease in the amount of clothing worn by women, and the vogue for dress designs that cannot always be suitably developed in cotton are some of the factors that have influenced the reduction in consumption of cotton fabrics.

Of all the fabrics that are used for clothing, cotton is the cheapest, the most generally used, and the one best adapted to a variety of purposes. It collects dirt quickly, but launders easily and can stand the high temperature of boiling, so with frequent changes it is a sanitary material.

Worsted. Examine a blue serge, which is a smooth-woven worsted fabric and is usually made of the fine wool that grows on the sheep's back, and notice the following characteristics:

1. Worsted fabrics have a special luster and a clear-cut surface, which gives them a distinctly smart appearance. They are valuable for fine suitings, etc.

2. In order to produce this smooth surface only the best and longest wool fibers can be used, and then they must be combed in order to have them all run in the same direction. Hence the worsteds cost more than the woolens. The smooth surface of the worsted fabric allows the weave to show, so that many attractive weaves give variety to worsteds.

3. Worsted will stand hard wear on account of high tensile strength, due to long fibers and the twist in the yarn.

4. It is warm — a poor conductor of heat.

5. It holds its shape, due to elasticity.

6. It does not feel cold when damp, due to its power to hold moisture.

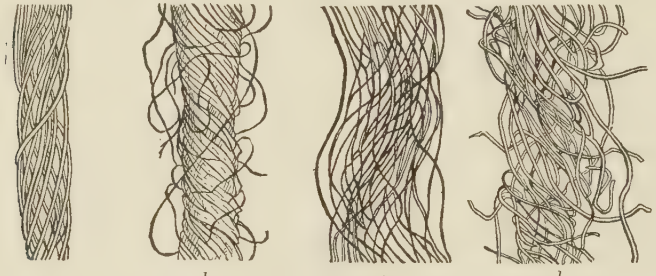
7. It is fast to sunlight, and has a great attraction for dyestuffs.

8. It does not soil as easily as cotton, due to the smooth surface of the fiber.

9. It tends to shrink when washed with friction, due to the interlocking scales on the fibers.

10. It is adapted to purposes where warmth is required and frequent washing unnecessary.

11. Worsted fabrics will wear shiny, owing to the smoothness of the cloth.



WOOLEN AND WORSTED YARNS MAGNIFIED

a. Fine Worsted Yarn. *c*. Coarse Worsted Yarn.
b. Fine Woolen Yarn. *d*. Coarse Woolen Yarn.

I. Notice the projecting fibers in the woolen yarns which form the nap or fuzzy surface of the fabric. The worsted yarn has been combed, which prevents the fibers from projecting, hence the worsted fabric has a smooth surface.

II. Observe also that the fibers are in a more or less twisted condition, which is done by machinery and is called twisting. The twist is measured by the number of turns the yarn receives per inch.

Worsted fabrics are of two kinds, English and French. The English has more twist than the French, hence, is stiffer, " holds its shape," " stands up," does not wrinkle easily, but springs back in place after being creased. Hence, it is not adapted to draping and adheres to fine straight lines. The French, due to less twist, is softer, and is better adapted to draping. Of course, the best draping wool fabrics are the light-weight woolens, but they wrinkle easily and shrink badly.

Wool has a natural spring or elasticity which allows the fabric to spring back into its original condition. Wool fabrics that are subject to a great and prolonged strain, as sitting on a skirt

and bending one's knees against trousers, will wrinkle under these conditions.

Wool has scales on the fiber that allow dirt to cling to it; silk on the other hand has no scales or ridges; hence wool requires more vigorous treatment than silk in washing. Silk requires gentle treatment.

Cotton mixed with wool reduces the shrinking of the fabric by preventing the scales of the wool fiber from coming together too closely. Hence, fabrics of mixed cotton and wool are more desirable as wash fabrics.

Wool. Look at overcoating materials or tweeds, which are composed of wool of various kinds, and notice how they differ from worsteds:

1. Woolen is fuzzier and softer than worsted.
2. The fuzzy surface of the cloth covers up, more or less, the weave structure.
3. The fuzzy surface is due to the fibers not being parallel.
4. Woolens are made of various kinds of wools of different lengths. Even rags (remanufactured wool) are used more or less. Hence woolens are cheaper than worsteds.
5. Woolens shrink more than worsteds.
6. Soft, thin woolens will shrink more than thick ones.
7. Since woolen is made of wool fibers it has many of the properties of worsted — is warm, does not feel cool when damp, does not soil as easily as cotton.
8. Woolens will not wear shiny, as the surface is not smooth.
9. Woolens are not as strong as worsteds, as they lack the twist in the yarn.
10. Woolens do not hold their shape as well as worsteds, due to softness of the cloth.
11. They will spot more quickly than worsteds, and the spots are harder to remove, due to the nap.
12. Wool is subject to attacks by moths.

Wool (virgin) is obtained from the backs of live sheep and goats. An inferior quality of wool, called "pulled wool," is

obtained from the bodies of dead sheep and goats. Remanufactured wool is obtained from woolen and worsted rags or used wool fabrics. This remanufactured wool when mixed with virgin wool can be made into woolens, but not worsteds. While the number of sheep and goats remains about constant, the demand for woolens fluctuates according to style. At present people are demanding more and more light-weight worsted fabrics, which require the best grades of wool with good length of fiber. Remanufactured wool is often called shoddy.

Mohair. Notice brilliantine, mohair, serge, and plush, and note that owing to its brilliancy, elasticity, and durability, mohair is peculiarly adapted for certain special uses, as distinct as silk, wool, or cotton.

1. It has the appearance of wool without its suppleness.
2. It does not feel like wool, is dyed with great facility, taking with equal readiness all colors.
3. Its qualities of luster and elasticity eminently fit it for the manufacture of pile fabrics.
4. It is also extensively used in the manufacture of dress goods, camlets, serge, poplin, brilliantine, braids, shawls, rugs, loop yarns, and imitation furs.
5. The mohair used in weaving seal plush for women's cloaks represents the finest quality of the fiber.
6. Ordinary grades of mohair mix well with soft medium wools and are thus used in the manufacture of hosiery, velvets, delaines, braids, tassels, trimmings, coat linings, cloakings, bindings, fringes, etc.
7. The best mohair plushes are almost indestructible.
8. Due to the coarseness of the fiber, mohair cannot be spun into a fine yarn, and hence cannot be woven as closely as wool or silk.

Silk. What is there about silk that makes it naturally attractive to everyone? Consider crepe de chine, and notice the following qualities:

1. Silk fibers are strong, and the strongest light-weight fabric is silk. The demand for silk fabrics is great and increasing because

they are light and will outwear all other fabrics, as well as being exceptionally beautiful.

2. Silk is an expensive fabric, due to the care and expense necessary in producing it.

3. It is cool, because it conducts heat. It is not practical as clothing in cold weather, but makes comfortable garments in mild temperatures.

4. It is a light-weight fabric, because the silk fiber is very fine.

5. It sheds dirt and keeps clean, because the fibers are very smooth.

6. Silks are difficult to wash, due to the injurious effect of friction and the action of soap in deposits of liquids. Therefore great care must be exercised in washing silk to have a neutral soap and little friction.

7. It is easily spotted, due to the delicate luster of the fiber.

8. It may be made heavy by the addition of salts of tin.

9. The fabrics hold their shape, due to the elasticity of the fiber.

10. Some silks will wrinkle and crease, due to the weight of the materials added.

Silk is obtained from the silkworm, whose care requires considerable human labor, hence its cultivation is restricted to China, Japan, Italy, etc., where labor is cheap. At one time more than half of the silk worms died, due to disease, before spinning their silken cocoons. The production of raw silk can and should be increased by educating natives in the care of raising of silk worms and eliminating disease from them. A new variety has been made possible by the establishment of a silkworm nursery for the propagation of disease-free silkworm eggs, according to the accepted Pasteur method. The eggs thus raised are distributed among farmers near Wusih, China, and the cocoons produced are reeled into the new variety.

The price of silk depends upon the quantity raised and the style demands for silk. As the result of scientific care in raising silk the quantity has increased to such proportions as to allow the average person to have some silk clothing, and in many

cases complete silk outfits. Compare this situation to that of years ago when only the rich could wear silk.

Rayon. Notice a piece of rayon or artificial silk and compare the characteristics and uses for clothing with those of genuine silk.

1. Rayon has a metallic luster, while silk has a deep pearly luster.
2. Rayon is made of wood pulp, while silk is the fiber secreted by the silkworm.
3. Rayon is not very strong compared to genuine silk.
4. Dampness and washing tend to weaken rayon.
5. The knitting industry is one of the largest users of rayon.
6. The price of rayon per pound is less than half as much as that of raw silk.
7. There are different grades of rayon.
8. Rayon burns as cotton does and leaves little ash except in the case of Celanese, which forms a ball as it burns.
9. It is stiff, non-elastic fiber, hence rayon fabrics do not conform to the curves of the body.

Rayon is made from wood pulp by different processes of solvents, hence we have different kinds. Celanese has less luster than other forms of rayon and resembles voile, but has a slight sheen.

Rayon, combined with other yarns, makes a very desirable fabric, for example:

(*a*) Combined with wool, it gives a warm and brilliant fabric.
(*b*) Combined with cotton, it gives a silk-like appearance.
(*c*) Combined with genuine silk, it increases luster and makes a very attractive cloth.

The word " rayon " means a textile fiber made by converting cellulose (wood pulp) into thread formation by means of chemical and mechanical process. While cellulose may be made from the yarn by different processes, and a different trade name given to the product of each separate process, as Celanese (cellu-

lose acetate), to distinguish them, nevertheless they are advertised and sold as rayon.

The *fiber* of rayon varies with the style tendencies, as most of the fabrics are novelties sold under trade names.

During the last five years, rayon, which was originally called artificial silk, has become popular. Rayon's particular advantages over the natural fibers (cotton, wool, and silk) have been an important factor in establishing its position in the textile industries.

It is said that the production and consumption of rayon have expanded on so large a scale in the last five years as to assure definitely the importance of its place among the textile fibers. Introduced as artificial silk, a substitute for real silk, it at first fell short of active competition with the natural fiber and for many years after its advent made comparatively slow progress.

Improved yarns and a better understanding of its characteristics have steadily enlarged its field. Cotton, wool, and linen manufacturers have found that it can be used to give a new decorative appeal to their products. More recently it has proved of similar use to silk manufacturers, and it now begins to encroach on the province of natural silk. Today it is established in the apparel, furniture, and decoration fields, with its limits still undefined.

Several years ago considerable dissatisfaction developed among manufacturers and consumers of rayon goods because of its low tensile strength and peculiar action toward dyes. Largely because of the chemical composition, rayon yarns and fabrics will not take the same dyes as silk, cotton, or wool. This situation led to numerous complaints. Rayons were heavy, extremely lustrous, and lacking in elasticity. Popularly known as artificial silk, the new fiber was discredited because it would not stand up under the treatment accorded silk or cotton.

Experiments with the manufacturing and dyeing processes have brought about great improvements in recent years, which have made possible effects unattainable before. Further chemical treatment has helped a great deal in subduing the high sheen, and in the case of one brand (cuprammonium yarn) tighter twisting of the filaments has done much to produce the desired effect. Efforts to improve elasticity and tensile strength of the yarns have not been so satisfactory, and the future should bring even better results.

Encouraged by the greater success of improved products, rayon manufacturers everywhere are striving to bring their yarns to perfection and are continuing the expansion of plant capacity at a high rate.

Rayon has shown itself more and more adaptable to use with the old textile fabrics and has proved invaluable in introducing novelty effects which have shown unusual sales appeal.

Rayon as a manufactured product has two great advantages over silk. Production can be expanded or contracted in response to demand, and the price can usually be predicted several months ahead. Real silk, being an agricultural crop, is subject to weather hazards and is in production from three to nine months before it is ready for the market. Projected output each year is determined by consumption in the season just past rather than by demand for the season ahead. Manufacturers of rayon, besides being free from disturbances by weather, are in close contact with their markets and can regulate operations accordingly.

Rayon's future competition with wool and cotton is more problematical. Seasonal variations in styles may give rayon a comparative advantage intermittently, but cotton has wearing qualities and covering capacity that rayon manufacturers are not trying to simulate.

Wool consumption has declined notably, 15 per cent in the last five years. This is due to the increasing favor for lighter-weight clothes. Rayon has gained some of this loss, but it has been rather indirectly, for it is silk that has actually cut into fields hitherto taken up by wool. Two new processes are reported from Europe for the manufacture of wool-like fibers from cellulose, but these are not advanced as substitutes for wool, but as complements to wool in the manufacture of inexpensive materials.

Rayon is woven into almost every type of fashionable garment. Dainty underthings, luxurious negligees, dresses for afternoon and for evening wear, coats — there are rayon fabrics for every occasion. Rayon is also used in men's wear and in children's apparel. It is particularly effective in striped, patterned, and brocaded materials, and therefore is ideally adapted to draperies and upholsteries. Rayon makes the smart costume more beautiful, the inviting interior more charming.

Rayon fabrics are unusually supple and flexible. Their rich coloring, too, lends itself admirably to the subtle and exotic motifs.

In addition to the soft daintiness which recommends it to the designer, rayon underthings, readily laundered, long in service, appeal also to the most practical-minded wearer. Rayon unites the beauty of rich color and fine texture with the economy of lasting service.

Linen. Compare a linen and a cotton handkerchief, and notice the qualities that make linen valuable and superior in many ways to cotton.

1. It is expensive, due to the labor and care necessary in producing the fiber.
2. Linen is a stem fiber, which means that it comes from the stem of the plant and is naturally stiff. Therefore, it makes a stiff fabric which is not adaptable for draping purposes.
3. Because linen and silk are smoother than cotton, they are more sanitary as they do not absorb the dirt easily, and do not stain easily. Silk waists, underwear, bathing suits, etc., are really dirt resisting and therefore valuable.
4. Linen has a beautiful luster, due to the smoothness of the fiber, which reflects the light.
5. It does not take on dirt as cotton does, because the fibers are not so porous.
6. It requires frequent washing and rinsing, because the fibers are stiff and not elastic, hence it creases easily.
7. It is useful for toweling and handkerchiefs, because it absorbs water and dries quickly.
8. It is usually more valuable in the white, due to the lack of fastness of color.
9. It does not lint or become fuzzy with frequent washing, due to the longer fibers, as compared to cotton, which has a tendency to lint because of its shorter fibers.
10. It keeps its shape of high construction.
11. Cheaper linens are not serviceable and will not last any longer than mercerized cotton, and in some cases not so long, because they are made of tow fibers, loosely twisted and woven

and heavily sized. After the cloth is washed the sizing comes out, leaving the fabric soft.

12. Linen is less elastic and pliable than cotton and bleaches and dyes readily. Flax from all countries is woven into table linen, though very fine linen must have carefully prepared fiber.

13. Linen should be soft, yielding, and elastic, with almost a leathery feel. Fineness of linen does not always determine good wearing qualities.

14. The celebrated Irish linen is the most valuable staple in the market, and on account of its fineness and strength, and particularly its bright color, it attains an unapproachable excellence because the best processes are used throughout the entire manufacture.

French and Belgian linens, while fine in thread and attractive in design, are not as serviceable as Irish linens. Germany makes a good wearing linen, but not a large variety of patterns. They are often printed and dyed. Scotch linens are now used more than any other kind. These linens are lighter than the Irish, and have a silver white finish and stylish designs. The Belgian linens have more sizing than the Irish, although they are very attractive.

Linen is obtained from the stem of the flax plant. The care and conditions for obtaining the best linen from the flax require a great deal of labor which makes the cultivation of raw linen available only in a few countries like Russia, where peasant labor is cheap. While the linen is finished in other countries, of course, this supply depends upon the source of raw material. Hence if the raw material is scarce, due to war or other conditions, the price of linen is high. During the last generation, or at least since the War, the demand for linen has decreased due to lack of appreciation of the fine home decorations of linen, and because women are now using more labor-saving methods, such as breakfast cloths, etc. Movies, clubs, and bridge are taking time that used to be given to decoration of the home.

Style Governs Demand. The demand for cotton, wool, linen, rayon, and silk varies with the styles. Sometimes cottons are popular, at other times silks are in demand. Then again, the

quantity of cloth worn varies with the style. To illustrate: A comparison of the lightest costume worn in the summer of fifty years ago (1879) with the costume (summer) of today (1929) will show that the weight of the first was almost seven pounds, while the weight of the latter was between 16 and 20 ounces at the most. A fashion magazine of 1879 lists the summer wearing apparel as follows: (*a*) long cotton chemise, (*b*) whale-bone corset, (*c*) long, stiffly starched pantalettes reaching to the ankles, (*d*) corset cover, (*e*) short cotton petticoat, (*f*) long, full petticoat about five yards wide, with hamburg ruffles and a duster ruffle, (*g*) high shoes, (*h*) lisle stockings, (*i*) a dress of stiffly starched muslin two inches above the ground, with several yards of ruching about the neck. The sleeves were long, with velvet ribbon bands.

The costume of 1929 consists of (*a*) one very thin undergarment of glove silk which combines a (1) vest, (2) girdle, (3) brassiere, (4) step-in, and is so light that it can be crushed into the size of a pocket handkerchief, (*b*) a sleeveless decolette one-piece crepe de chine dress that ends at the knees. Also a pair of chiffon stockings.

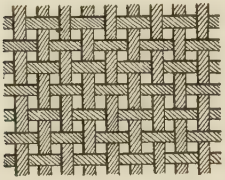
Thus we see that the quantity and composition of textiles used depends to a large degree on styles. Since the population is fairly constant there must be a curtailment of textiles when the styles are running to costumes of limited size and weight and of scanty proportions.

Weave (Structure) of Cloth. A piece of cloth has a structure or body like the structure or body of a house, and this structure, which is commonly called a weave, gives the cloth its strength and in some cases its beauty. As we have many different types of structure of houses, each for a different purpose, so we have many thousands of weaves, varying in strength and beauty.

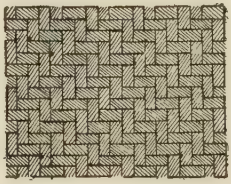
While the structure of all fabrics is popularly called the weave, technically speaking this is not true — as hosiery is considered a knitted, lace a plaited, and felt a felted fabric.

Nature of Weaving. Hold up to the light a very coarse piece of

worsted fabric and note the way the threads interlace at right angles. This method of cloth structure is called weaving. The strongest and most popular method of producing cloth is by the interlacing of at least two sets of threads at right angles. It produces a fabric that is very strong and yet allows ventilation to take place, which is not true of felted fabrics.



PLAIN WEAVE



TWILL WEAVE

Parts of a Woven Fabric. Every woven piece of cloth is made up of two distinct systems of threads, known as the warp and filling (weft), which are interlaced with each other to form a fabric. The warp threads run lengthwise of the cloth, and the filling runs across from side to side. The manner in which the warp and filling threads interlace with each other is known as the *weave*. When the word *end* is used in connection with weaving it always signifies the warp thread, while each filling thread is called a *pick*. The fineness of the cloth is always expressed as so many ends and picks to the inch. It is expressed thus 84x80, meaning 84 ends and 80 picks to the inch.

We can divide all the weaves into the following classes:

1. Plain weave — like muslin and taffeta.
2. Twill weave — like serge.
3. Sateen weave — like silk satin.
4. Jacquard weave — like tapestries and damasks.
5. Double cloth weave — represented by overcoatings with a back different from face.
6. Tubular weave — like pillow cases.
7. Pile weave — like velvets and plushes.
8. Lappet weave, found in dotted swiss.
9. Gauze or leno weave — represented by marquisette.

Plain or Homespun Weave. Plain cloth is the simplest cloth

that can be woven. In this weave one series of threads (filling) crosses another (warp) at right angles, passing over one and under one in regular order, thus forming a simple interlacing of the threads. It is sometimes called a plain or homespun or tabby weave.

This combination makes a strong and firm cloth. It gives a very light fabric, but does not give a close or a heavy cloth, as the threads do not lie as compactly as they do in other weaves. In plain cloth, if not fulled or shrunk in the finish, the result is a fabric perforated with large or small openings (see illustration) according to the size or twist of yarn used. If heavy or coarse threads are used, the perforations will be large; if finer threads, they will be smaller.

This weave is used in the production of sheeting, muslin, lawn, gingham, sometimes in broadcloth, taffeta, etc. It is commonly used when the cloth is intended to be ornamented with printed patterns. In weaving cloth of only one color but one shuttle is used, while for the production of checks, plaids, etc., two or more shuttles are required. These are called *box-loom* effects, because the portion of the loom holding the shuttles is called the *box*.

The plain weave was no doubt the first weave invented. Originally it was woven without any pattern, but as time went on inventive weavers found that decorations might be produced in the plain weave, as follows:

1. Introducing in the warp at stated distances a colored yarn which when woven produced a *stripe* effect.

2. Similar colored yarn in both warp and filling produced a *check* or *gingham* effect.

3. Introducing a thicker yarn at stated distances in the warp produced when woven a *cord* effect in the warp, like a repp.

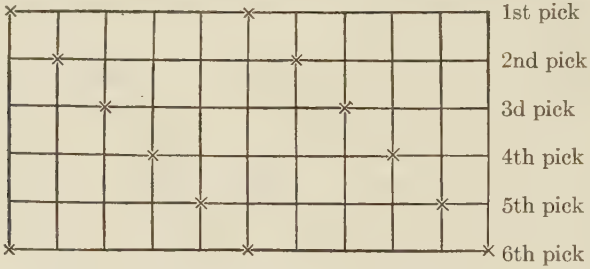
4. Similar introduction in the filling would cause a *cord* effect in the filling, producing a poplin.

5. Introducing crepe yarn of left- and right-hand twist in the warp or filling or both would produce a crinkled appearance — *crepe* effect. Similar effects may also be produced by differences in the *tension* of the warp.

Basket Weave. Since the plain weave is not decorative in itself, a combination of the plain weave is used where two or more threads instead of one interlace. This weave is very popular and is used for woolens. It is known as *basket* (weave) *cloth*.

Twill Weave. Various successful attempts were made to produce a stronger fabric — one with either more ends or picks to the inch. This was done by having the pick interlace more than one thread at a time. From this formation we have the *twills* and *sateens*, fabrics that are more decorative than the plain weave and stronger in resisting friction or rubbing strain. The characteristic of the twill is the *diagonal* effect, and that of sateen the high luster due to smoothness of the fabric.

The twill is used extensively in worsted suitings. It is produced by having the filling thread interlace one and then more than one



X signifies filling thread passes over warp thread.
There are five picks to the repeat or design.

warp thread. Notice from the illustration that in the twill the interlacing moves one thread to the right with each pick as shown on the diagram above.

If there are the same number of threads to an inch in warp and filling, twill lines will form an angle of 45 degrees; if the warps are closer together than the filling, the angle will be *steeper;* if the filling threads are closer together, the lines will approach more nearly the horizontal. Different effects are obtained in patterns by variation in the size and twist of the yarn, by the use of heavy threads to form cords, ribs, etc., and by mixture of vari-colored materials in the yarn. Often one form of twill weave is combined with another to produce a fancy twill weave. The object of the twill weaving is to increase the bulk and strength of the fabric, or to ornament it.

Sateen Weave. While the twill has body and weight, it is necessary to give the yarn considerable twist in order to bring out the

diagonal effect to advantage. The additional twist makes the fabric appear rough. If the amount of twist is less and the diagonal effect is destroyed, the fabric is quite smooth, and naturally reflects the light and has a distinct luster. This is the object of the *sateen* weave. The sateen weave may be practically the same as the twill, except that the diagonal effect is destroyed by destroying the continuity of the diagonals.

Satin Weaves. To summarize: the object of a satin weave is to distribute the interlacings of the warp and filling in such a manner that no trace of the diagonal (twill) line will be seen on the face of the cloth. In weaving a satin design the filling is made to appear on the surface. In sateen weaving, either the warp or filling appears on the face. If the filling is on the face, then it is called a filling-face satin weave. A warp-face satin weave may be produced by reversing the order: in this case practically all of the warp is brought to the face of the cloth. In this way a worsted warp and a cotton filling might be woven so that practically all of the warp would show on the cloth, and give it the appearance of a worsted fabric. Many classes of silk goods are made in this way, with a silk filling covering a cotton warp.

This weave produces an even, close, smooth surface, capable of reflecting the light to the best advantage, and having a lustrous appearance which makes it resemble satin cloth. Satin cloth is made of silk, using a satin weave.

Satin weaves are used very largely in producing different styles of cotton-and-silk fabrics, and are also frequently found in woolen goods. They are extensively used in the manufacture of damask and table-covers. Satin stripes are frequent in madras, shirtings, and fancy dress goods in connection with plain and figured weaves.

Jacquard. Notice the large woven design in a piece of damask, and see that it runs the length of the pattern. Note also the large number of threads in the pattern — 500 more or less. Compare this number with the few threads in the repeat of a plain weave — two — and the twill and sateen weaves (called dobby designs) — five to fifteen. To obtain an elaborate design a special device, called a Jacquard, is added to the top of the loom. Hence a Jacquard weave is used to produce a fabric having a more or less elaborately woven design.

Double Cloth. Examine a piece of heavy overcoating. Notice the side pick and face of the cloth; tear it apart and note how it is attached. A very heavy fabric, such as is used in making ulsters, weighing 24 ounces or more to the yard, is usually woven as two separate fabrics, and then connected by threads. Consequently a double cloth must have more than a single warp and single filling.

The name double cloth is applied to fabrics produced by combining two single cloths into one. Each of these single cloths is constructed with its own system of warp and filling, the combination being effected in the loom by interlacing some of the warp and filling threads of one cloth into the other at certain intervals, thus fastening them securely together. The reasons for making double cloth are many. Sometimes it is done to reduce the cost of heavy weight fabrics by using cheaper materials for the cloth forming the back. It may be used to produce a double-faced fabric. It allows great freedom for the formation of colored patterns which may or may not correspond in design on both sides. More frequently the object is to increase the bulk or strength of certain kinds of fabrics, such as heavy overcoatings, cloakings, pile-fabrics, golf-cloth, rich silk, etc. A double cloth may include two warps and two fillings, or two warps and a single filling.

Tubular Weave. Tubular weaving is similar to double cloth weaving, only the fabrics are woven together at the edges. Such is the method in practice for making pillow cases, pockets, seamless grain bags, etc.

Pile Weave. Examine a piece of velvet, velveteen, or plush. Notice the back and the face of the cloth. Note that the upright face (called the pile) is made of threads projecting from the foundation cloth. *Pile weave* is a general term under which are classed numerous varieties of cloth woven with a pile surface, as plush, velvet, velveteen, and carpeting of various kinds. Turkish towels are an excellent illustration of pile weaving. A pile surface is a closely set, elastic face covering various kinds of woolen, silk, and cotton fabrics, and consists of threads standing close together, either in the form of loops (uncut pile) or as erect thread-ends sheared off smooth so as to form a uniform and even surface. In the production of a pile fabric a third thread is introduced into the weaving and formed into the loops, usually by carrying it over wires laid across

the breadth of the cloth. The wires are afterward drawn out, leaving the loops standing; then the loops may be cut so as to form a cut pile, as in velvet and plush, or they may be left in their original form, as in Brussels carpets and Turkish towels. A more economical way of producing pile fabrics is to weave the fabrics as a double cloth, with a single thread interlacing both fabrics. Then the intervening thread is cut, leaving two distinct fabrics, each with a pile effect.

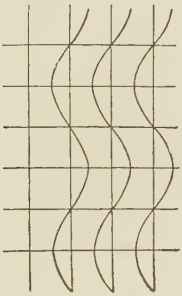
Lappet Weave. Examine a piece of dotted Swiss and note the embroidered design on the plain-woven fabric. The weave that produces this and similar small designs is called the *lappet* weave. This form of weaving imitates embroidery and is used mainly in plain and gauze fabrics. This weave is produced by a special device (called a *lappet*) attached to a regular loom, which affects the using of the warp threads so that the design is produced intermittently. The filling threads that do not form part of the design remain, are free or loose threads on the wrong side of the cloth, and are cut off by the finishing machine. Of course, these same effects may be produced by a Jacquard, but it is more expensive. Elaborate designs are beyond the range of lappet weaving, but there are many small effects that can be economically produced in this manner, such as the detached spots in dotted Swiss, and narrow and continuous figures running more or less into stripes.

Fabrics constructed or made of the lappet weave, such as high grade dotted Swisses and figured voiles, are usually light fabrics, and are not substantial in structure, and therefore not suited for hard wear.

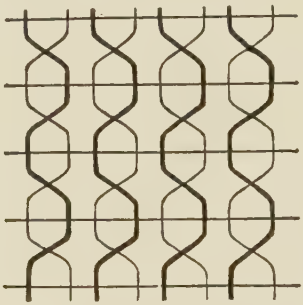
Gauze Weave. Examine a piece of marquisette and note the open work of the weave and at the same time note the strength of the fabric. A fabric with open work made on the plain weave is not very strong, hence the need of a reinforcement to give it strength. This additional strength is given to the fabric by a modified plain weave, called *gauze* or *leno* weaving, which departs from the usual straight lines of the warp, as shown in the sketch on page 188.

Gauze is especially characterized by its openness, and forms the lightest and strongest fabric with the least material. Gauze fabrics are designed for women's summer gowns, flounces, window curtains, etc. When gauze is combined with plain weaving it is styled *leno*.

In gauze weaving not all of the warp threads are parallel to each other, but are made to intertwist more or less among themselves, thereby favoring the production of light, open fabrics, in which many ornamental lace-like combinations can be obtained.



GAUZE WEAVE



LENO WEAVE

The structure or weave of the gauze fabrics, such as marquisette, is very strong and firm, due to the twisting of the warp yarns about each other. In addition, this twisting of the warp yarn gives a decided artistic and attractive effect to the cloth.

Construction. The number of threads in a fabric is a very important element in its construction. Hence a quick method for determining this fact is very useful. Such an instrument is called a counting glass and is a magnifying glass of various forms and dimensions, but commonly of small size. The counting glass commonly used consists of a small, round magnifying lens set into a thin square piece of metal, hinged to an upright, which latter is hinged to a foot-piece in which there is a square opening. The size of the opening ranges from one-fourth of an inch square to an inch square. The three pieces composing the instrument can be folded together in a compact form convenient to carry in the pocket.

While the woven fabric is a very popular fabric, there are other methods of manufacturing cloth, according to the structure or the way it is put together: (*a*) felting, (*b*) knitting, and (*c*) plaiting, in addition to (*d*) weaving.

Production of Cloth by Felting. Felting is the process by which cloth is made by pressing strands of wool into layers and then pressing the layers together. This method of producing cloth is very

serviceable, as it makes it possible to have layers of any thickness that may be moulded and curved into permanent shape, in addition to the fact that they are strong and waterproof. Hats, linings, and shoes are made of felt. The disadvantage is poor ventilation.

How Felt is Produced. Since wool fiber is covered more or less with little scales, all pointing in one direction, these scales, combined with the curling tendency of the fiber under the influence of heat and moisture, produce the felting qualities of wool. Washing tends to make woolen or worsted fabrics felt.

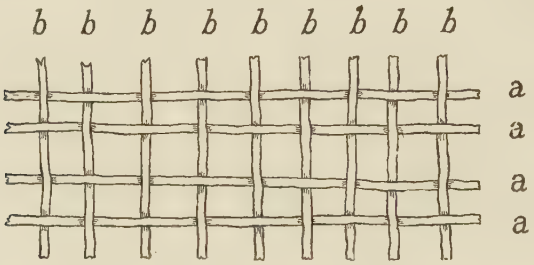
PLAIN STOCKING FABRIC

Knitted Fabric Structure. Stockings. One of the most important pieces of clothing is the fabric worn on the leg and foot, called a stocking or hose. Notice carefully the elasticity of hosiery and jersey cloth. This elasticity is not found to any degree in a serge. Hosiery is constructed as a knitted fabric, while serge cloth is woven. Knitting is the second of the fundamental methods of making fabrics, and is distinguished from weaving by the fact that knitted fabrics are made by a single thread, while weaving has two threads at right angles.

Knitting. The terms knitting, netting, and knotting indicate varying methods of manipulating a single thread for the purpose of producing elastic and pliable fabrics.

The art and process of forming fabrics by looping a single thread, either by hand with slender wires or by means of a machine provided with hooked needles, is called knitting. Knitting may be made on either a circular group or straight row of needles. The circular machine produces a circular fabric, and the straight or flat machine a flat one. Crocheting is quite similar to knitting, but differs from it in the fact that the separate loops are thrown off and finished by hand successively, whereas in knitting the whole series of loops which go to form one round or length is retained on one or more needles while a new series is being formed on a separate needle. Netting is performed by knotting the product the knitter

made. The elastic feature of a knitted texture renders it peculiarly adapted for all classes and kinds of undergarments, for it not only fits the body snugly, but expands more readily than any other fabric of similar weight.



ORDINARY WEAVING
a. Weft. *b*. Warp.

The essential characteristics of good hose are: (1) That they should be so knitted as to conform to the foot of the wearer. (2) That they should be thickened or reinforced where the greatest weight and friction come.

The essential characteristics of good underwear are: (1) It should be made from elastic cloth, which implies a knitted fabric. (2) It should be porous in a high degree — whether in winter weight or summer weight.

Examine different kinds of stockings (such as the cheapest, medium, and high grades) and see if you can distinguish or detect any differences in the structure or manufacture.

Hosiery Manufacture. According to the particular method by which socks and stockings are made, of whatever kind, quality, or material, they are classed as cut goods, seamless, or full-fashioned. Of the three methods of manufacturing the first-named is the least expensive.

Cut goods in hosiery are made of a round roll of cloth about the width of a sock or stocking when pressed flat. While some very creditable hose are produced in this way, yet the presence of the heavy seam is an objection which confines their use to the poorest class of trade. Cut goods are made in all sizes and kinds for men, women, and children.

Seamless Hose. Seamless hose are made on a specially constructed machine which produces the entire stocking, but leaves the toe piece to be joined together by a looping attachment. On half-hose the leg is made the same size down to the ankle, but on ladies' hose the stocking is shaped somewhat in the machine. Seamless hose are not, strictly speaking, entirely seamless, inasmuch as all stockings made on a circular knitting machine must have a seam somewhere. There must be a beginning and an ending. In the case of the stocking the ending is at the toe, and the opening left can only be closed with a seam.

Full-fashioned Hose. Full-fashioned hose are produced by means of complicated and expensive knitting frames, which automatically drop the requisite number of stitches at the ankle so as gradually to narrow the web down and give the stocking the natural shape of the leg. The toe is produced in the same way, and the shaping of heel and gusset is brought about in like manner. Hence, the goods are called full-fashioned, because so fashioned as to conform to the proportions of the leg and foot. The first operation consists of knitting the leg down to the foot; then the legs are transferred by expert workmen to another frame, which knits the foot. Next they go to another department where, with the aid of a special looping machine, the heels and toes are stitched together. Then the stockings or socks are handed over to expert women operators, who seam up the legs on a machine especially adapted for the purpose. After being sorted they are dyed, boarded, stitched, dried, and finally subjected to heat and pressure to give them a finished appearance. Full-fashioned hose are made in all shades and grades of silk and cotton, in lisle thread, and in all kinds of cashmere, merino, and woolen goods. They are likewise knitted plain, ribbed, and with fancy stripes and embroidery effects.

Knitted Fabrics. While we may think of hosiery and underwear when we speak of knitted fabrics, there are many other possibilities for them, such as knitted outerwear — sweaters, dress accessories, lingerie, infants' wear, and sport coats and hats.

The fact that knitted fabrics can be shrunken and napped means that the cloth can be given a firmness and nap to cover loop construction, and made nearly equal to a woven fabric, thus making it adaptable for warm outer garments.

Nap knitted fabrics can be made into a strong, thin fabric of cotton, wool, silk, and linen and used for lingerie.

All knitted fabrics have an elasticity due to the softness of the yarn and the looped construction which allows the strain of the body movements on the garment to be evenly distributed. This elasticity prevents the knitted garments from wrinkling or destroying the appearance of the fabric.

Knitted fabrics are soft to the touch, which always makes them feel comfortable, and they readily absorb moisture, due to the structure and softness of the yarn.

The disadvantages of knitted fabrics are:

1. A tear will rapidly destroy the fabric, due to the drop stitching.
2. It is difficult to handle knitted fabrics in sewing.
3. Due to their structure, knitted fabrics are likely to stretch and lose the shape.
4. Due to the elasticity, knitted fabrics tend to cling to the figure.

Plaited Fabrics. Look at a piece of lace and notice the open design or pattern. Remember the method of producing handmade lace — a single thread interlaced with considerable freedom so that it is possible to make elaborate designs. Fabrics produced in this manner are called *plaited* fabrics. The knitted fabric is also made by the interlacing of a single thread, but the design is limited to either circular or straight-line effects.

Lace. The term *lace* may be used in two ways: specific and general. In a specific sense, lace is the name applied to the ornamental open-work of threads of flax, cotton, silk, gold, or silver, and occasionally of mohair or aloe fiber. The latter are used by the peasants of Italy and Spain. (Laces are discussed in more detail on page 426.)

QUESTIONS

1. Give a general description of the term "clothing."
2. (*a*) What is meant by "cloth"? (*b*) How does cloth differ? (*c*) Why are differences important in clothing?
3. What are the essential kinds of cloths?
4. Why is cotton a popular fabric for clothing?
5. What is meant by the expression "a good conductor of heat"?
6. Why is cotton reasonable in price?

7. How does one mean when he says " cotton is not fast "?
8. Why does cotton wrinkle?
9. Name some of the characteristics of a worsted fabric.
10. What is the exact difference between the manufacture of a worsted and a woolen?
11. Why has a worsted a smoother and better face than a woolen?
12. Which is stronger — a worsted or woolen fabric? Why?
13. Why is a worsted or woolen fabric warmer than cotton?
14. Does a worsted hold its shape? If so, why?
15. Which feels cooler when wet — cotton, woolen, or worsted? Explain in detail.
16. Which is faster to colors — woolen, worsted, or cotton? Why?
17. Which soils quicker — cotton or worsted? Why?
18. Why does woolen and worsted tend to shrink when washed?
19. (*a*) What causes a worsted suiting to wear shiny? (*b*) Does a woolen wear shiny in the same way?
20. What is meant by moth-eaten cloths?
21. Describe the fuzzy effect of woolens.
22. Which will hold its shape better — a woolen or worsted suiting?
23. Which will spot quicker, woolen or worsted? Why?
24. What makes silk more expensive than cotton or worsted or woolen?
25. Why is it possible to make lighter weight silk fabrics than cotton or worsteds or woolens?
26. Why does silk fabric keep cleaner than cotton or worsteds or woolens?
27. Why is it difficult to wash silk?
28. Why do silk fabrics hold their shape?
29. (*a*) Compare the luster and wearing qualities of silk and rayon. (*b*) State the reason for the differences.
30. Compare the style and wearing qualities of cotton and linen.
31. Why does linen cost more than cotton?
32. (*a*) What is meant by the structure of a fabric? (*b*) What is the popular term for structure? (*c*) Is this structure technically correct?
33. What are the characteristics of a woven fabric?
34. What are the principal points of a woven fabric?
35. (*a*) Name the principal weaves. (*b*) Give an example of a fabric resembling each weave. (*c*) What are the characteristics of each weave?
36. How are (*a*) cords, (*b*) stripes, and (*c*) checks produced in a plain weave?
37. (*a*) How is the cloth of a felted hat produced? (*b*) State the characteristics of a felted fabric.
38. Describe briefly the characteristics of (*a*) knitted and (*b*) lace fabrics.

CHAPTER VII

MATERIALS FOR CLOTHING (THREADS, YARNS AND FIBERS)

Importance. We saw in the previous chapter that the characteristics of a cloth are due to the characteristics of the yarn or thread, which in turn are due to the raw material of the yarn — the fibers. Hence, we must know the yarns, threads, and fibers.

If yarn is taken from the edge of a piece of serge and untwisted you will notice that it becomes weaker and weaker until it separates into individual lengths called fibers. In other words, yarn or thread is composed of long or short lengths called fibers of cotton, wool, silk, rayon, or linen drawn out to considerable length and then twisted. Note that the twist gives strength and that the long fibers can be drawn out longer than the short fibers.

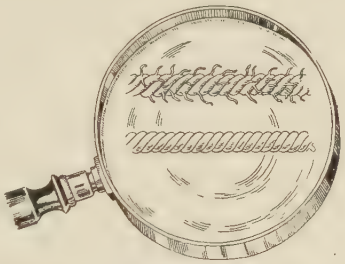
Fibers. The fibers used for cloth come from certain plants or animals. Cotton comes from the ripened seeds of the cotton plant and varies from $\frac{1}{2}$ to $2\frac{1}{2}$ inches long. Wool comes from the back of sheep and goats and varies in length ($\frac{1}{2}$ to 8 inches) and softness, etc. Silk is given off by certain caterpillar forms called silkworms, to cover the insect while changing its physical condition, and varies from 3 inches to 4,000 feet long. Linen is obtained from the stem of the flax plant, and varies from $\frac{1}{2}$ inch to 6 inches in length. Rayon is obtained by twisting wood pulp. All these different kinds of fibers have different qualities due to length, softness, etc., that cause differences in prices of the same kind ranging from 200 to 300 per cent.

Carding and Spinning. Since the raw fibers are collected in a mass with more or less dirt, the problem of making them into yarn

requires three distinct operations: (1) Cleaning the fibers, (2) reducing the clean matted fiber into a strand about an inch in diameter, (3) reducing the thick strand to a thread of the proper size by a series of operations of drawing (pulling out) and twisting.

Fine (Combed) Yarn. The quality of cotton or worsted yarn, etc., may be improved by an additional operation of combing — passing the raw material through a steel comb which makes all the fibers parallel and also removes the short fibers. Combing improves the evenness, smoothness, and luster of the yarn. Hence it is used only for the better quality of cloth. Yarn may be increased in size and strength by doubling or trebling, producing what is called 2-ply or 3-ply yarn.

Yarn and Thread. The thread-like strand that is interlaced in weaving to make cloth is called *yarn*. Yarn is used in making cloth and thread in sewing. Compare a piece of thread and of yarn. Thread differs from yarn in the following points:



DIFFERENCE BETWEEN CARDED AND COMBED YARN UNDER THE MAGNIFYING GLASS.

Note the projecting fibers in the top yarn, which is only carded. The bottom yarn is combed. Note the smoothness.

1. Yarn is a strand of twisted fibers.

2. Thread is ply yarn; that is, a number of yarns twisted together.

3. Thread must be smoother than yarn and sized so that the ends will not show the individual fibers and so that it can pass through the eye of the needle.

4. Thread must be stronger than yarn, hence must be made of long fibers and much twist so as to hold fabrics together.

5. Notice that the end of a piece of yarn has fibers projecting, while in thread the fibers are twisted and then smoothed by the tallow in the sizing operation so that the fibers are close together.

Yarns of different kinds can be twisted together in ply form so as to make (1) a cheaper product — cotton with wool; (2) a stronger and cheaper yarn — cotton and rayon; (3) a cooler yarn that will prevent shrinkage — cotton and wool (4) a thinner and more luxurious yarn — silk and wool.

Strength of Yarn. The strength and fineness of a yarn or thread is due to the length of the fibers and the number of turns or twists to an inch. The longer the staple the longer the yarn which can be made from a given amount of fibers. The twist varies from a few turns to a hundred per inch. The longer the fiber the more twist can be placed in the yarn without kinks or roughening. A two-ply yarn highly twisted, that is, with as many turns or twists to the inch as possible, woven closely together, will give a firm, stiff fabric that in the case of a worsted would hold its shape and be valuable for trousers or a suiting. A fabric composed of a single yarn not so tightly twisted or closely woven would be softer and adapted to women's suiting because it would drape better. On the other hand, fabrics with less twist would not be as strong, but would be easily napped, so adapted for overcoating. Worsted fabrics have a larger diversity of weave designs than woolens.

There are different types of finish or treatment given to different yarns, such as (*a*) lisle yarn, (*b*) zephyr yarn, (*c*) "twist" yarn, (*d*) novelty yarn, (*e*) schappe yarn, all of which have distinct artistic value and hence should be described in detail.

Lisle. Look at the lisle hosiery on the market and notice the very fine silk-like appearance of the stocking. Lisle thread or yarn is made almost exclusively from long-stapled Egyptian cotton. It is usually combed, spun, and twisted in a moist atmosphere, thus intensifying its compactness and solidity; and not infrequently it is gassed (passed over a hot plate) to remove the fuzz and give it a smooth, clean surface. The luster is then increased by the calendering process, which gives it a brilliant, lustrous finish. An especially brilliant finish is sometimes produced by treating it with tallow after dyeing. Tallow not only imparts a beautiful luster, but it also serves to increase the effect of the color and gives the yarn a soft and silky feel.

Garments knitted of lisle thread have a dry, cool feeling, and do not become soggy from perspiration as do those made from the more loosely twisted carded yarns. Each fiber of the combed thread retains its separateness, and there is no felting; consequently, the smooth threads slide and slip in their meshes and thus give

great elasticity to the whole garment, peculiarly adapting lisle to the production of high-grade underwear, gloves, and hose.

Zephyr. Zephyr is a name specifically used to denote a variety of soft, fine worsted yarn used for knitting, crocheting, and embroidering. It is also used as a trade name to denote textures of various kinds characterized by extreme lightness and fluffiness: as, zephyr flannel, zephyr gingham.

Zephyr is produced both in solid colors and clouded effects, and according to the size of the strands, is known as *double*, *single*, and *split*, containing, respectively, eight, four, and two strands. Double and single zephyr yarns are very slightly twisted, so that the individual strands can be divided if desired. Split zephyr is more closely twisted, and is used principally for crocheting.

Twist is a term applied to a thread, cord, rope or the like made of two or more strands wound one around the other. It is applied principally to silk thread used for sewing. *Buttonhole twist* is a variety of loosely twisted silk thread put up on small spools containing 10 yards; used exclusively for making buttonholes. *Machine twist* is the name originally given to three-cord silk thread for use on the sewing-machine.

Novelty Yarn. Examine a piece of ratine. Note the knots in the yarn. Many novelty fabrics, particularly fabrics for ladies' wear, are made from unusual and freak yarns called *novelty* yarns. These fabrics are expensive to produce because they require special twisting machines for taking single yarns and twisting them into two-ply or more, with a device for producing a loop in the yarn as it is being twisted.

There are five distinctive types of novelty yarn: spiral, spot, snarl, loop, and slub. There may be modifications of each and combinations of two or more. Every type of novelty yarn consists of two or more of the following members: A *base* or foundation end, around which the end or ends intended to create the effect or design are twisted; the *effect yarn*, the various characteristics of which constitute a design and give the threads their distinguishing titles;

and the *tie yarn*, which is used to bind the effect thread in its correct position on the base and to prevent slip. Each of these may be single or ply yarn and may be grey or colored. The effect ends are formed from rovings, soft-twisted single yarn, or ply yarn, the last named in many cases being previously twisted in a fancy manner. In general, all of these yarns are made by twisting together at uniform but different speeds. *Spot*, *snarl*, and *loop* yarns are made by twisting two yarns together and varying the rate of delivery of one to give the effect. The various effects, as denoted by the names, are due to the relation of the two twists and to their character. In *spot* yarn the effect yarn winds closely around the base in spots or at intervals. *Snarl* makes a twisted snarl at intervals, and *loop* gives a loop of yarn at intervals. *Slub* yarn is made by spinning or twisting roving with ordinary yarn or yarns at intervals, or making it continuous and bunching it at intervals.

Shoddy. Since there is not sufficient new wool cut from the sheep's backs each year to meet the needs of the clothing trade, it is necessary to use over again old wool or rags, called *shoddy*, from old clothing.

Old rags are made into yarn by the following operations:

(1) Freed from dust, (2) carefully sorted, (3) oiled so they will be soft and pliable, (4) grinding operation, which consists of tearing the rags, thread from thread and fiber from fiber, until they are reduced to a mass of wool. Then this wool may be mixed with virgin wool and made into woven yarn.

Genuine or Reeled Silk. As described above, silk is found on the market in two forms, (*a*) reeled and (*b*) spun silk. The reeled is better and stronger because it is made from the continuous silk of the whole cocoon held together by the gum and twist. That is, the silk is removed from the cocoon and then twisted into yarn for weaving.

As raw silk is already in the form of a continuous strand, there is no occasion for the preparatory machinery that is needed for all other textiles, where a mass of short, tangled fibers of varied lengths needs to be transformed into a continuous length of

roving. The raw silk is doubled and twisted by a process called *silk throwing.*

Spun Silk. Notice the silk in pile effects of velvets and plushes and in silk thread. This is obtained from a waste silk called spun silk. Waste silks include the pierced cocoons, that is, those from which the moth has come out by making a hole and breaking the fibers in one end of the cocoon. The gum is removed from the fibers by boiling with soap, etc. After the gum is removed from the cocoons, they are opened and combed and made into yarn, the same as worsted. Since the fibers are small, they must pass through the same operations as cotton and wool in order to make a continuous thread. Imported spun silk is often called *schappe* silk and is used for the pile of some velvets.

Since the silk from the cocoon contains nearly 25 per cent by weight of gum, which dulls its natural luster, this gum must be removed by boiling. The fiber remaining after the boiling-off is then lustrous and brilliant, and of a light creamy white. If it is to be dyed " pure dye," the coloring is next proceeded with, and the weighting added.

Loaded or Weighted Silk. Should it be desired to increase the thickness of the silk, a process called *weighting* precedes the coloring. Silk has a great affinity for many substances (tin chloride, lead acetate), and when immersed in solutions of such substances will absorb and retain a considerable amount, thus adding to both its bulk and weight. By careful and scientific treatment, not only can the weight lost in boiling-off be replaced, but a large additional weight can be imparted, particularly in blacks, although all silk fabrics may be *loaded.*

The weighting of silk is an expensive and complicated process, but as it makes possible the production of sound, useful, and sightly qualities at much lower prices than would otherwise be possible, its use, within the dictates of prudence and the limitations of good practice, is of economic value to the consumer. Most yarn-dyed goods are weighted to some extent.

While *loading* silk to a limited extent may not affect the softness, luster, or color, it does affect the strength and endurance of the

fabric. Hence, it is necessary to sell and wear weighted or loaded silk fabrics quickly. Sunlight, washing, and perspiration will destroy loaded silk. Light weight, pliable, and wash silks are not as liable to be loaded as taffeta and other stiff silk fabrics.

Silk goods are always made and brought before the public with the idea that they will drape well. Weighting them was started some years ago with the advice, expressed through the press of the country, that we should confine ourselves to a certain percentage of weighting which would make weighted silks as wearable as any pure dye silks had been.

Within the last few years there has been a tendency to increase the percentage of weighting, owing to the demand of the trade. However, durability and wearability of the fabric have always been borne in mind. Weighting of silks has reached the point beyond which it cannot go, but still the trade is asking for more weight and what is more serious, an undue stiffness in these goods. This stiffness will cause the silks to crease and break when made up into dresses, and may drive women away from the silk fabrics eventually.

Other Fibers. There are other fibers such as alpaca, horsehair, and camels' wool that are used in clothing. Mohair and alpaca are fibers obtained from goats. Both fibers are stiff and lustrous, although mohair is more so than alpaca. Because mohair is stiff, smooth, and has a luster, it is adapted for pile fabrics and those that do not require frequent cleaning. It is not adapted for soft, clinging lines and styles.

Horsehair is very stiff and is used for stiffening in the underlining of coats. Camels' wool is very warm and light, hence it makes a fine, soft, light-weight, dressy fabric with a glossy, slightly hairy finish.

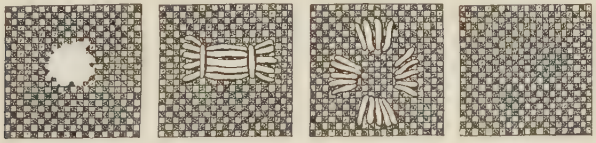
Tinsel. This term has long been used to denote a metallic substance, used in strips or threads for any purpose in which a sparkling effect is desired without much cost. Tinsel thread is produced in a great number of ornamental styles, both flat and round, and in all colors and shades, though usually in imitation of gold or silver. It is largely used in the production of novelty dress trim-

mings, braids, and cords, and for making various kinds of thread used in artistic needlework.

Metallic Threads. Metallic threads have always been used for decorating, particularly in rich fabrics. Fine golden threads, as well as silver-gilt threads, and silver threads and copper wire, were used in many of the so-called Cyprian gold-thread fabrics, so renowned for their beauty and permanence in the Middle Ages. These threads are now produced by covering flax or hemp threads with a gilt of fine texture.

The Finishing of Cloth. Cloth as it comes from the loom is in an imperfect condition for use. It must be treated in such a way as to make it attractive, and in some cases fuzzy; so as to make it feel warmer or heavier, etc. Each fabric is treated differently in order to meet certain requirements of style. The different treatments, called finishing operations, are as follows: (*a*) mending, (*b*) fulling, (*c*) bleaching, (*d*) napping, (*e*) shearing, (*f*) pressing, (*g*) sponging, (*h*) mercerizing, (*i*) gassing, (*j*) sizing, (*k*) waterproofing, (*l*) fireproofing, (*m*) embossing. No one fabric has all the finishing operations.

Mending. The object of darning or mending is to make repairs in the structure of the cloth by inserting the missing threads, according to the weave, by means of a needle. Notice that threads are actually woven in one direction and the other. The loose ends



SHOWING THE MENDING OF WEAVING DAMAGES

of the threads are left exposed as Fig. III. Then they are cut and the cloth pressed so that loose ends will not be seen.

More exact work is required in mending threadbare fabrics that call for little if any finishing than in dealing with a face-finish

fabric, where the nap is to be raised and will cover many imperfections so that they will never be noticed in the finished cloth.

Every knot that has been tied in the threads during the manufacture of cloth must be looked for and felt for, carefully drawn to the surface of the cloth, and then clipped off with the scissors.

Fulling. The object of fulling is to render woolen and worsted goods stronger and firmer in body. Fulling is similar to felting, the principal object of each being to condense the fibers, thereby increasing the firmness. Certain varieties of woolens are fulled nearly one-half their original width and length. They are then dried and stretched on a machine at the finished width.

Sometimes finely cut-up wool waste is fulled into the under side of cloth in order to make it firmer. Sometimes it is used to cover up defects and make cheap fabrics of cotton and wool appear thick. Later this wool waste falls from the cloth and appears in the linings of coats and skirts.

Goods that are to be fulled are woven longer and wider to allow for the shrinking. Excess shrinking causes the cloth to feel tight and stiff, often called *bound*.

Napping. Look at a broadcloth and note the fuzzy surface, called the *nap*. Napping is an additional process which may be applied as a finish to any medium or heavy-weight cloth. The cloth is passed through a special machine, called a napping or raising machine, and subjected to the action of wire-covered rollers which scratch the surface and brush up portions of the fiber so as to cause it to stand out and more or less hide the interlacing of the warp and filling. The napping is facilitated by the use of specially soft-twist filling yarns. The twill weave is best for this purpose, as it permits long, regular floats which present an excellent surface from which to raise a nap.

A napped fabric, made by scratching the surface of the cloth so as to form a fibrous covering similar to that on the surface of flannel, is distinctly different from a cut-pile fabric, in which the pile is formed by extra threads which are cut so as to show projecting ends.

Sometimes the loose fibers on a slight nap like a worsted fabric are singed by passing through a gas flame. Small projecting fibers are burned. The cloth is washed to remove the odor of burned wool.

Pressing Machine. Fabrics require more or less consolidating and lustering, or " smarting up " in appearance — practically pressing — before they are forwarded to the warehouse. This is done by passing the cloth over a pressing roll heated to a high temperature. Having obtained a satisfactory luster, it is necessary to fix this by winding the cloth on rollers and allowing dry steam to pass through the piece. This fixes a permanent luster and finish and prevents shrinkage.

The gloss may be increased greatly in mohair and alpaca fabrics by excessive pressure on the cylinders. Luster may be given to cheap broadcloth by the addition of gelatine. This adulteration may be detected by wetting the inspected sample and noting whether the luster appears after the spot has dried. If the luster does not appear, gelatine has been used. If the luster appears, it means a true lustered broadcloth.

Sizing. Look at a piece of buckram and then at nainsook and note the difference in stiffness, which is due to addition to the cloth of starch, etc., called *sizing.* Starch dressing imparts to a fabric a stiffness and grip which improves and completes it. The finishing process also improves the appearance of the fabric, making it more saleable and at the same time enabling it to withstand shop wear.

Luster. The finishing of fabrics is really a process of beautifying and improving. Sometimes it is done by mechanical treatment alone, but in most instances, in cotton fabrics, it is done in conjunction with such materials as are suitable for developing smoothness and gloss. The degree of luster obtained depends upon: (1) The material of which the calender rolls are made, (2) the pressure to which the fabric is subjected, (3) the amount of friction between the rolls, (4) the constituents of the sizing with which the fabric has been treated.

Look at a piece of Venetian and notice its very high luster. Venetians probably have the highest luster of any cotton fabric. Since the luster depends upon (1) weave — sateen gives the highest degree of smoothness, (2) sizing, (3) pressing — smoothness of the iron and the pressure at which it is exerted, (4) mercerizing and gassing. A mercerized fabric of the sateen weave properly sized would, with the smoothest cylinder at great heat and pressure, give the highest luster.

Calendering. Cloth in large quantities is put through the calendering machine (pressing cylinders) to give it a perfectly smooth and even surface, and sometimes a superficial glaze; the common domestic smoothing iron (flat iron) may be regarded as a form of a calendering utensil. We remember that at home there are two kinds of "irons" used for pressing: (1) one heavy, dull iron, ordinarily used for ironing the wrinkles out of clothing, called a flat iron, and (2) a small, highly polished iron used under great pressure for ironing collars and cuffs in order to give them a high luster. The cloth is first passed between the cylinders of a machine two, three, or four times, according to the finish desired. The finishes, due to pressing between rollers, may be classed as dull, luster, glazed, watered or moire, and embossed. The ironing cylinder (calender) always flattens and imparts a luster to the cloth passed through it. With considerable pressure between smooth rollers a soft, silky luster is given by equal flattening of all the threads. By passing two folds of the cloth at the same time between the rollers, the threads of one make an impression upon the other, and give a wiry appearance. The iron rollers are sometimes made hollow for the purpose of admitting steam or gas in order to make them very hot to give a glaze finish. Embossing is produced by passing the cloth under heated metal rollers upon which are engraved suitable patterns, the effect of which is the reproduction of the pattern upon the surface of the cloth.

Schreinerizing. If the cloth is subject to the action of a steel roller engraved with very fine lines, called schreinerizing, there is a tendency to flatten the threads composing the fabric and impress the surface of the cloth with a close series of ridges so fine that a magnifying glass is needed to distinguish them. These lines reflect the light and give a high luster.

Mercerizing. Examine a piece of mercerized cotton. Note the luster or silk-like appearance of the fabric. The object of mercerizing is to obtain a lustrous silk-like finish; incidentally the yarn is increased in strength and in affinity for dyestuffs. The cotton is immersed for a short time — ten minutes — in a solution of caustic soda and the cloth held very tight under tension. The caustic soda appears to be absorbed by the cotton, which swells and thereby straightens out the porous twisted-ribbon form of the fiber. The

cotton tends to contract in the caustic soda, hence it is held tight so that the fiber assumes an appearance more cylindrical and hairlike. The smoother and more cylindrical the shape, the better light reflector, and therefore the more lustrous it becomes. The alkali must then be rinsed out to prevent tendering. The production of a high degree of luster depends to a considerable extent on the fineness and length of the fiber.

Gassing. Various attempts have been made to increase the luster of cotton cloth so it will appear like silk. The principal methods are called mercerizing and gassing.

The object of gassing or singeing is the removal of the fuzz or loose projecting fibers found on all cotton yarns after ordinary spinning and doubling. The clearing away of this fuzz from the surface of the yarn greatly improves its appearance, as the yarn looks smoother, rounder, and brighter. An incidental but important result is that the yarn, by reason of the removal of the fuzz, weighs less per yard, and is therefore raised to a higher count. Incidentally, also, gassing slightly increases the relative strength of the yarn and makes it somewhat darker in shade. In gassing, the yarn is passed one or more times through the electric hot plate, the speed being regulated so that the projecting fibers are singed off without the yarn itself catching fire.

Examine a piece of unbleached cotton cloth, often called grey cotton goods, and note the color, softness, lack of body, etc. Since cotton has a yellowish color and lacks the properties that make a fabric attractive to the eye, it is usually necessary to finish the cotton fabric after it leaves the looms before it will appeal to the consumer.

Bleaching. Cotton and linen are bleached in the form of yarn, thread, and cloth. This is a difficult, and in the case of linen is a long process, owing to the large amount of natural impurities present in flax fiber and the difficulty of removing or dissolving them. Although the formula for bleaching linen is similar to that for cotton, it takes a great deal longer to bleach linen, and a number of cycles — quarter-bleach, half-bleach, three-quarter-bleach, and full bleach — are employed. The fabrics are usually sold by designation quarter-bleach, half-bleach, three-quarter-bleach, and full bleach. Bleaching is now done as a rule by chemical processes,

and when chemicals are used great care must be taken as to their strength.

QUESTIONS

1. Why is it necessary to study the yarn threads and fibers?
2. (*a*) What is meant by the expression " carding and spinning " of the fibers? (*b*) Why is it important?
3. What is meant by the expression " fine combed yarn "?
4. (*a*) What is the difference between fine and coarse yarns? (*b*) How does the fineness of the yarn affect the fabric?
5. What is meant by the expression " lisle yarn "?
6. What is the difference between yarn and thread?
7. Describe the use of the term " zephyr " as applied to yarn and cloth.
8. Describe the characteristics and use of the following: (*a*) twist, (*b*) buttonhole twist, (*c*) machine twist.
9. Describe the characteristics and uses of novelty yarn.
10. Why does the strength depend upon twist and length of the fiber?
11. (*a*) How is yarn produced? (*b*) State the importance of twist and length of the fiber.
12. Name the principal fibers and characteristics of each.
13. How is the fineness of a yarn or thread expressed?
14. Explain the meaning of the expression " 60's cotton thread six cord."
15. What is meant by the finishing of a fabric?
16. Name the principal finishing operations and state the advantage of each kind.
17. Is a nap fabric usually strong? Explain.
18. Why are fabrics usually shrunk?
19. (*a*) What is the difference in wearing qualities between bleached and unbleached? (*b*) Describe bleaching.
20. Two cotton fabrics have a luster. One has luster on both sides and the other a luster on one side. Which is the mercerized fabric?
21. What gives the high luster to a cotton Venetian?
22. Explain how a luster fabric is produced.
23. Describe the methods of finishing hosiery.
24. State the characteristics and uses of (*a*) mohair, (*b*) rayon, (*c*) linen.
25. (*a*) What is meant by loaded silk? (*b*) Is it a worthwhile operation to the consumer?
26. (*a*) What is a novelty yarn? (*b*) State the advantages and uses.
27. Describe the characteristics of (*a*) schappe silk and (*b*) shoddy. State the economic importance.

CHAPTER VIII

ORIGIN AND STYLE OF COSTUME AND FABRICS

Since the average person naturally becomes interested in one point of a costume, such as the hat, skirt, etc., there is a tendency to disregard the entire costume as a unit. Therefore we should make it a practice to study the outline or silhouette so as to see the proper relation of each part and the costume as a whole.

Silhouette. The style is determined by the silhouette or the *outlines* of the garment when seen from a distance. As we have seen in the history of costume, the silhouette may be the real lines of the figure frankly revealed by beautifully fitting clothes, or it may be a false outline, wisely or unwisely produced by a certain mode of dress.

One authority divides these silhouettes roughly into six classifications and states that every woman comes under one of these heads.

First of all there is the square silhouette, produced by clothes that broaden and flatten.

Second, the rectangular silhouette, which is oblong, straight up and down, narrow, and with no waistline, making a person look like a rectangle, expresses dignity and stateliness. This sort of costume is slenderizing but severe, and hides the real personality of its wearer. It is essentially the costume of the business woman.

Third, the outline may be narrow at the shoulders, and become increasingly wide toward the bottom of the skirt, like a triangle with the point (vertex) cut off. The triangular silhouette is for the woman who has a small, flat bust and large hips. Her most becoming costume is the tight-fitting blouse and voluminous skirt, the Marie Antoinette costume, the wide skirts of the Spanish dancer.

Fourth, the inverted triangle is for the woman whose hips are

small but whose bust is large. There is much cleverness needed to dress this type to advantage.

Fifth, the oval or egg-shaped silhouette, widening at the hips. This is for the woman of symmetrical form who is gracious and feminine and charming. It carries the suggestion of lovely trailing tea gowns, of chiffons and laces, and afternoons at home, of tea by candle light. Naturally this sort of dress is not intended to be worn on the street or at the office.

Sixth, there is the round silhouette adapted to the very thin, short, or tall person.

The difference in style or outline is affected noticeably by changes, especially in the three following points:

1. Sleeves, which vary from long, plain, and tight-fitting to very full balloon effects, full at the shoulder (leg o' mutton) or full at the wrist (bell or bishop sleeve)
2. Waistlines, which may be long, medium, or short, causing a complete change in the figure.
3. Skirts, which may be straight and narrow, plain at the top, full at the bottom, or full from the waistline to the bottom. The outline of a skirt is also changed by the waistline.

In looking at fashion magazines to see what the new styles are, always notice the three points mentioned above and see what changes have taken place. Notice the outline of a person far enough to see the effect, and be sure that your eye is not distracted by the trimmings.

Fabric of the Costume. As soon as the style of the costume for the season has been determined, the question arises, what fabrics will bring out the style effects to the best advantage? It may be that existing fabrics on the market will suffice for the style of the costume, or it may be necessary to make new fabrics with distinct characteristics for the new style.

In order to know the kind of fabric necessary to bring out the style effect, it is desirable to know the different types of fabrics and their adaptability for producing different effects.

The materials that enter into the construction of a costume

are as important as the lines or color, because the cut and line effects depend upon the characteristics of the fabric.

To illustrate: A stiff silk, like taffeta, should not be used, as it might give a bouffant effect in a period when fashions are soft and clinging; a soft, clinging material like crepe de chine should be used. For the same reason chiffon — a very light, sheer, silk fabric — should not be used for a circular skirt, because it lacks body and stiffness. It might be used as an overslip where a stronger fabric is used underneath. Taffeta, satin, etc., would be suitable materials for a circular skirt. This is the reason why the fabric of an old costume cannot be used to advantage in making a new one, for the style effect is lost. Each style calls for a certain style of fabric; if this is violated, we lose the effect.

Texture. A word used frequently by costume drapers or designers in describing cloth is *texture*. It refers to the feel or finish and weave of the fabric — to the sensation we experience when we close our eyes and feel of a fabric. A fabric may be fuzzy, napped, stiff, fluffy, soft, etc. The texture is governed by the composition and twist of the yarn, weave, and finish.

The texture of a fabric determines the degree of reflection of light. To illustrate: Satin reflects the light to the face, bringing out the lines and shadows; a dull soft texture, like crepe de chine, will not reflect as much, hence, will appear to better advantage on an older person.

We saw on page 181 the importance of the (*a*) weave (structure), (*b*) construction, and (*c*) twist of the yarn in the fabric. That the (1) plain weave gave a structure of strength and firmness, particularly in resisting — tensile strength, (2) high construction, that is, closeness of threads, gave also a firm and strong fabric, (3) the highly twisted yarn or ply yarn gave stiffness and strength to the yarn. Consequently, a plain woven fabric closely woven, of high twist or ply, is the strongest and firmest. We see that by reducing or changing any or all of these factors, (1), (2), and (3), we alter the strength and stiffness or firmness of the fabric proportionally.

Thickness of Fabrics. The thickness of a fabric is due to the diameter of the filling yarn plus the diameter of the warp yarn.

Therefore, thick fabrics are due to the structure or weave composed of thick yarns. Thin fabrics, on the other hand, are due to a structure or weave of yarns of small diameter or fine yarns. The thinness depends upon the fineness of the yarn. Since fine yarn can be made only from long fibers highly twisted, it follows that they are the expensive fabrics.

Weighty Fabrics. A heavy fabric is due not only to thickness but also to closeness of weave. A light-weight fabric is due to thinness and low construction.

There are materials such as velvets, ratines, and napped (fuzzy) wool fabrics, such as broadcloth, bulky linens, and stiff cotton fabrics, that are quite heavy and when made into costumes make the figure appear larger because of the apparent bulk of the material. Hence they are not desirable fabrics for stout people. On the other hand, these fabrics are very useful for costumes requiring service.

Light Fabrics. Very thin (sheer) materials, such as voiles, organdies, and georgette crepe are sufficiently transparent when made into costumes to show the outline of the figure and thus prevent the form from appearing either larger or smaller. These fabrics are made of highly twisted fine yarns which gives a strong (due to twist and long fiber) light-weight fabric.

Finish. A fabric may have different types of finish. These different types of finish are very useful in bringing out different style effects. A hard-finish fabric is due to (*a*) smooth yarn (made by the process of combing, which adds to the expense), (*b*) highly twisted yarn, (*c*) ply of the yarn, (*d*) closeness of weave. A hard finish makes a fabric stiff, which has a tendency to make it hang in straight lines, thus preventing its use for draping purposes. Stiff fabrics that stand out from the body are composed of hard-twisted ply yarns, closely woven and, perhaps, with the additional use of sizing. Hair and very stiff fibers, (mohair, etc.) give added stiffness to fabrics.

The hard-finished fabrics that hang in straight lines or clumsy

folds, such as men's serge, taffeta, etc., bring out the harsh lines and wrinkles of the face and take away from its attractiveness. Hard-surface fabrics look well only on a young, slender person, as the severity of the hard surface magnifies the lines of the body and face. Some of the finishes are more wiry than others, but nevertheless they are stiff in character. Stiff, wiry fabrics are adapted to severe tailored effects and should be worn with tailored hats and shoes.

Fuzzy or Nap Surfaces. If we desire a fuzzy surface, the cloth is made (in part or whole) of loosely spun yarn and is loosely woven. Nap is the downy, fibrous covering on the surface of various kinds of cotton, silk, and woolen textures — specifically, the surface-covering of short fibers combed out from the threads of a woven fabric and lying smoothly in one direction. It is of many varieties and forms, as the covering raised up on the surface of flannels and cheviots, the uniform nap of frieze, chinchilla cloth, and other heavy waterproof fabrics. If a very fuzzy surface is desired, a pile weave is used.

Soft Fabrics. Soft, light-weight fabrics are used for draping purposes, so that when the fabric is made into garments it will fall in graceful folds and cling to the body. The softness is given to the fabric by fineness of yarn with a fair amount of twist and very little, if any, sizing.

While soft fabrics drape well they will not fall into the straight lines of pleats. They should be worn with less severely tailored hats, coats, and shoes. The texture of the trimming material should be still finer. Soft, fluffy fabrics naturally add to the bulk by an after-image of extension and also give a softness to the outline of the form.

Some fabrics are very thin and soft, so much so as to float in the air, and are called filmy fabrics. These have a tendency to float outward, like chiffon, etc. The thinness is due to fineness of yarn and low construction in weave. The softness is due to slight twist and lack of sizing.

Lustered Fabrics. As explained in the previous chapter, the

luster on a fabric varies and depends upon the (1) composition, (2) smoothness of yarn, (3) weave, (4) finish. The different degrees of luster are used to advantage in different style effects.

There are certain fabrics such as satin, panne velvet, etc., called lustrous fabrics, with a distinct high luster which, when made into costumes, tend to make one look larger because of the bright light reflected from the surface, which calls attention to the size, width, and roundness of the figure. Hence they should not be used by the larger, broader women.

Then again, the lustered fabrics reflect the light to such a marked degree as to bring out the lines and wrinkles of the face and form by leaving a strong after-image.

Watered Effect is an effect produced upon grosgrain silk by which the surface assumes a variety of shades, as if the cloth were covered with a multitude of waving lines, the transition from bright to dull effects giving beauty to the fabric. There are two methods of watering silk. It is known that if a silk tissue be pressed with a hot metal roller engraved with a vapory design, that the design on the roller is reproduced on the tissue, which takes, on the portions affected, a distinct appearance without changing color. These, which might be termed grained or marbled effects, can be produced on goods of any width, ribbons or dress fabrics, rollers of the proper width being all that is necessary.

The watered effect may also be produced by wetting the silk and expelling the air and moisture under great pressure. The air in trying to effect its escape, drives before it the moisture, and hence causes the appearance of the curiously tortuous lines, resembling waves, called *moiré* effect. The object of developing upon woven textiles the effect known as moiré is the production of a peculiar luster resulting from the divergent reflection of the light rays from the material, a divergence brought about by compressing and flattening the warp and filling threads in places, and so producing a surface the different parts of which reflect the light differently. The moiré effect may be obtained on

silk, worsted, or cotton fabrics, though it is impossible to develop it on other than a grained or fine-corded weave. The pressure applied to the material being uneven, the grained surface is flattened in the parts desired.

In the Middle Ages moiré was held in high esteem and continues to enjoy that distinction. It is used for women's dresses, wraps, and for facings, trimmings, etc. Fabrics with well-defined and firm ribs, such as bengalines, etc., respond best to this operation, and a wide variety of effects is obtainable by treating the fabrics in various ways.

The classic way of making true moiré, called *moiré antique* or *moiré anglaise*, is by folding the ribbed material lengthwise, face in, the selvedges covering each other and stitched together at intervals to prevent slipping. The fabric is placed between closely and very evenly woven linen or cotton, which is dampened. The whole is calendered several times; sometimes the cloth is not dampened before calendering. Very light fabrics are dressed on their reverse side with glue, size, etc., and after drying run between heated rollers. The moiré thus produced will have large designs showing a great variety and without repetition, but symmetrical on the sides.

Although cross-ribbed materials are usually selected for the moiré process, flat fabrics, like taffeta or satin, are also given similar finish by means of rollers engraved with a moiré design which is pressed into the face of the cloth. Another process of quite recent date produces a moiré effect by means of printing irregular surfaces with several opalescent colors irregularly overlapping each other. The former process (printing with engraved cylinders) always produces repeat in the design, while in the color printing the repeat can be avoided by using rollers with different diameters for the various colors.

Embossing. Embossing is an effect produced on goods by passing them through pairs of correspondingly engraved rollers. This is usually applied to thin goods, although embossed effects are produced on velvets by the pressure of a roller engraved in

relief. Soft, lusterless fabrics will subdue the lines of the figure and also the size, if chosen in proper colors.

We have discussed the characteristics of the texture of fabrics that make them valuable for costumes. Now we shall consider how the (1) styles of fabrics are made, (2) different degrees of style, (3) designs on fabrics.

Degrees of Style. Fabrics may be divided into four style classes, according to the degree of the appeal to the public — conservative, popular, ultra, and exclusive. Since fabrics like serge will always be in style; serge may be considered a staple, and the person who wears it as conservative in style. Conservative fabrics and costumes are appropriate for church and street wear.

There are certain fabrics that consist of a new weave with high coloring and which usually appeal to young men and women. Such a style is extreme or ultra stylish, and is suitable for sport wear or social occasions. On the other hand, midway between these two limits, conservative and ultra, there is a fabric like georgette crepe that appeals to the majority of people. We call this a popular style. Lastly there are certain fabrics, like imported satin broadcloth, that are so expensive that only people with considerable means can purchase them, and because they are restricted to this group are said to be exclusive in style.

Styles of Fabrics. Each piece of cloth is made originally to meet a certain style requirement. That is, once a style is determined, the problem is to produce fabrics that will bring out the style. To illustrate: If the style of coats and capes is to be loose, then elaborate silk linings with novelty designs must be produced, because the interior of the loose garments will be displayed.

Substitutes. The tendency is to place on the markets *substitutes* which are cheaper than the staples. For example, a fabric composed of cotton and wool may be placed on the market and called albatross, when the original fabric was composed

of wool only. A number of firms have on the market cotton fabrics with printed checks and insist on calling them ginghams. A true gingham is a yarn-dyed fabric. Of course, these printed checks are novelty ginghams of a cheaper grade, and not true ginghams in terms of the original fabric.

Staples. Since the style effects repeat themselves from time to time, it follows that there are some fabrics, called staples, that are durable, popular, and constantly in demand, and there are new fabrics that are made from season to season to meet certain style effects and then disappear. These fabrics are called novelties or fancy fabrics. In other words, we always have on the market staple fabrics like taffeta, broadcloth, gingham, satin, etc., and in addition fabrics differing from the staples in small changes that appear from season to season, called novelties. The staples may be illustrated by the following fabrics:

Brilliantines	Cheviots	Nun's Veiling
Sicilians	Panamas	Cashmeres
Mohairs	Batistes	Shepherd Checks
Imperial Serges	Taffetas	Serges
Storm Serges	Voiles	Broadcloths

Fancies are fabrics produced to meet the demands of style. They may remain in favor a year or two. The fancies are fabrics differing from staples in weave, color, and composition, and are produced through: (1) variation of weave; (2) variation of color; (3) variation of color and weave.

Examples: Brocades, cuspettes, meliores, hopsacking, etc.

Coloring includes: stripes, checks, plaids, melanges, mixtures.

Styles of Fabrics. Ideas for new fabrics for men's clothing originate usually in London, while those for women's clothing originate in Paris. This information is collected by an expert called a *styler*. From all the information that he obtains from Paris and London, aided by information with regard to the tendencies of style in general, he selects to have made for the coming season 200 or 300 fabrics. These fabrics, called blankets, are made at the mill

and given to the styler, who then decides on 40 or 50 which the house will offer to the trade. The selling house opens its season with these 40 or 50 novelties plus the regular staples.

Every large selling house places on the market every season the usual staples, and a larger or smaller number of novelties or fancy fabrics. The staple fabrics will be sold because there is always a demand for them. The selling of the novelties is a problem. It all depends on how successful the styler has been in determining the popular taste or style. If they do not sell as soon as they are placed on the market, it is extremely doubtful if they will be in any considerable demand.

Mills obtain the designs for fabrics from foreign countries — Paris (for women's fabrics) and London (for men's fabrics); and also from passing events. These designs must appeal to the popular fancy and conform to the standards of beauty and good design as outlined in Chapter II.

The Instinct to Decorate. The desire to decorate or beautify is so natural an impulse that we find from the beginning of the human race traces of different kinds of textile decoration. In response to this desire, decorations were copied from Nature — flowers, birds, and scenery.

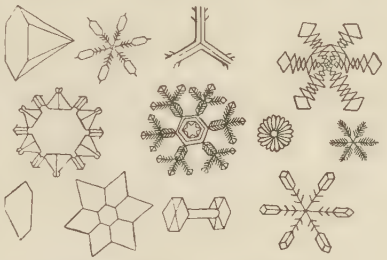
Since decorations are expected to be pleasing, it is only natural that people should select designs and colors of the most beautiful flowers, scenes, and symbols of pleasure and religion, as well as those of conquest and other achievements.

Each civilization, race, and country has adopted a form of decoration. To illustrate: There is the Egyptian decoration, which represents the designs used during the early Egyptian civilization.

The designs of clothing, etc., of people in one part of the world are different from those in another part. This may be due to climatic conditions, the temperament of the people, and environment. The flowers and birds of countries near the equator have the most radiant colors, and we find that the people of those countries use the radiant colors in their clothing and other decorations. As we pass to the north, we notice that the colors of the animals are darker and not so brilliant, and the tastes of the people of the northern countries in dress and decorations tend to neutral colors. So we find people with different tastes and standards as to decora-

tion, clothing, and color, due to inheritance, education, and environment.

Geometrical Designs. Designs found on fabrics may be either (*a*) geometrical, (*b*) perspective, (*c*) naturalistic, or (*d*) conventional. Look at a gingham and notice the square and rectangular appearance. Notice that this design gives the impression of being seen by looking squarely at a rectangle. By changing the point from which one looks, different views of the object may be obtained. The views usually drawn are of the front, top, and side. The front view, obtained by looking squarely at the object from the front, is called the *elevation*. The top view, obtained by looking squarely at it from the top, is called the *plan*. The side view, obtained by looking squarely at the object from the side, is called the *profile*.



GEOMETRICAL DESIGNS

Snowflake forms are frequently used in designs.

Many of the designs in ginghams, etc., are simply square and rectangle plans and elevations of square and rectangular blocks. Egyptian designs represent the front and side views.

Perspective Designs. The *perspective* view is the one that portrays an object as it appears to the eye from one point of view. The rails of a car track, for instance, appear to converge. The parallel lines of any object appear to the eye to converge in like manner, and a perspective drawing will show this. Any picture or photograph furnishes an example of perspective. It reproduces the way the eye sees and is the natural method of presenting an object for pleasure. The early oriental artists did not know how to secure perspective; hence, the early drawings and designs of the Egyptians appear flat and not natural because they are presented in the geometrical (profile) rather than the perspective manner. The Greeks introduced the perspective conception.

We usually see the human body by a front or back view, sometimes called "elevation," and a side view, called profile view. The outline or contour of the front or back view shows a tapering form

of straight and curved lines from the head to the feet, while the side or profile view, sometimes called silhouette, shows the curves of the bust, waist, and hip lines. The silhouette view of the human form differs in most profiles from a front or back view.

Naturalistic Designs. The best designs are those that follow Nature. In fact, the best designers use Nature's pattern book for ideas. A design copied exactly from Nature is called *naturalistic.* Sometimes it is necessary to place a design of a flower in a small space and to use it as a unit in part or as a whole. In order to modify the shape of the flower to fill the space, sometimes only the general form is used, and the design is then called *conventional* and not naturalistic.

CONVENTIONAL DESIGN

NATURALISTIC DESIGN

Naturalistic designs, such as buds, flowers, butterflies, and landscapes, are not very desirable for dress fabrics. The conventionalized designs are far more interesting because they do not appear so conspicuous and outstanding on the fabric.

The designs that we see on fabrics have been handed down from centuries. They appeal to us because they arouse a feeling or an emotion that is pleasing. To illustrate: The zigzag or chevron is probably the earliest ornamental form. The worship of the sun, the moon, and of lightning at the dawn of civilization is handed down to us in spiral, crescent-shaped, and zigzag ornament, mystic symbols having been gradually converted into decorative schemes.

Artisans of olden times, particularly in the Orient, possibly for superstitious reasons, evolved a symbolic and decorative instead of a naturalistic art.

The Greeks developed an art for art's sake, turning toward Nature for their conception, and emphasized the naturalistic method of representing objects. They also developed perspective to a marked degree. The Greek or classical conception of representation influenced the Renaissance art, and thus we find paintings or designs of fruit so cunningly made as to tempt one to seize and eat it.

This form of art has been called naturalistic and has dominated the Christian countries within a generation or more. Thus we find through civilization two forms of art or ideals of decoration — one developed in oriental countries (conventionalized designs) and the naturalistic or realistic designs of the western countries.

Cubism. A modern art movement that dates from 1908 is called *cubism*. It attempts to make objects solid and endurable, and represents them by means of planes. This method of expressing the values of objects is considered powerful, effective, and interprets the structure rather than the appearance. To illustrate: Nature and human forms are represented by cubes, cones, and cylinders.

The influence of cubism has been far-reaching. It has affected furniture and women's dress and has fruitfully inspired both architecture and interior decoration.

CUBIST FIGURE

The Futurists. While the cubist designers specialized in the third dimension, another group of artists, called *futurists*, went one better and specialized in the fourth. When a futurist designed a costume he recognized the profound truth that although he could not see it, the back or side of the costume was there. He also realized that however long the person wore the costume, a time would come when he would move about, and the back of the costume would become visible. These things being so, why not paint the side of the person, or the person in another position — walking? The futurists were

particularly successful in the rendering of movement, but they secured this by their adroit use of diagonal and slanting lines. This idea has been carried out successfully in displaying costumes on persons walking or sitting in different positions. The aim is to express the idea of a form rather than an appearance.

MODERNISTIC DESIGNS

Psychological Value of Costume. There is a strong appealing influence that is really emotional in character in fabrics or costumes which differ according to the (*a*) composition, (*b*) weave, and (*c*) finish. To illustrate: Look at georgette or chiffon costume that is cut to meet the requirements of the person and see if it does not attract us in a flattering manner — alluring. Then change by looking at an elaborate velvet costume and see how the velvet gives a quality that inspires dignity, loftiness, reverence, and in some cases an elevation of rank.

Then notice the tulle trimmings of a cashmere and notice the love, kindness, or good-will that it conveys. A satin costume, on the other hand, associates with its softness and luster an irresistible power to please and attract — charm. A lace costume brings out all the feminine charm of a person, that is, the power to attract in different degrees.

The costumes containing metal cloth convey a suggestion of military spirit or ambitious display — ostentation. Costumes of fur give one the impression of richness and elegance and gorgeousness — splendor. Fabrics of linen are forceful and active in appearance, and give the impression of efficiency. Organdie we associate with youth. Serge costumes always convey the idea of durability, due to the tightness of weave, hence suggest service. A broadcloth costume is made of one of the oldest fabrics and gives a conservative, mild impression, hence we associate it with genteel or well-bred people.

Similar results may be obtained by the proper use of color which has been described in the chapter on color, on page 63.

Fabric Designs. As far back as we go in history, we shall find attempts made to make fabrics and costumes attractive by means of designs. This is not surprising when we consider that Nature has used design and color in all its creations, and we naturally desire color decoration in order to satisfy our tastes. The history of design, like everything else, has passed through all stages of development from the simple to the complex.

The primitive designs and those that are used today in textile fabrics are either vertical or horizontal forms, or diagonal lines repeated, giving us stripes, cords, checks, etc. The square gives us checks and zigzag lines. Geometrical forms of all kinds have been used — lines, triangles, squares, rectangles, hexagons, circles, ellipses, etc. The blooming flower has furnished much artistic inspiration. The tapering stem and spreading petals with graceful curves offer a contrast to the upright pistils.

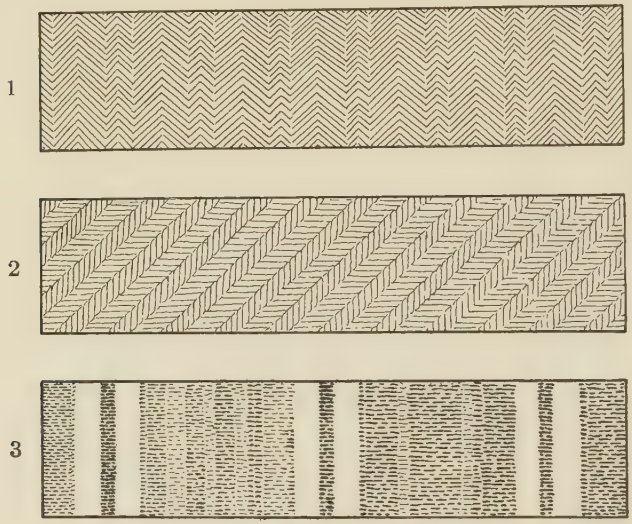
If we examine striped fabrics we shall find that the proper spacing of the parallel lines is what appeals to us. Proper spacing differs according to use, texture, color, and composition. To illustrate: Striped materials for clothing should be different from furniture coverings. The stripes may be modest, or broad and self-asserting, or in bold, striking colors.

Lines. The different kinds of lines in fabrics as in costumes may be used in three distinct ways: (*a*) repetition, (*b*) contradiction, (*c*) transition, each of which affects the appearance of the shape on which the lines are placed.

A fabric may be improved by being associated or placed with another fabric that differs slightly from it, by contrast or likeness.

Notice a pattern or design in a fabric. It may be a woven or printed pattern. In either case, notice that the pattern breaks up the surface into lines, squares, dots, or large masses of color in the form of lines, geometrical forms, flowers, etc. The pattern adds to the attractiveness of plain fabrics, and hence the woven or

printed design fabric is more attractive. As we examine the patterned fabrics we shall find that those that have the stronger contrast are the most conspicuous.



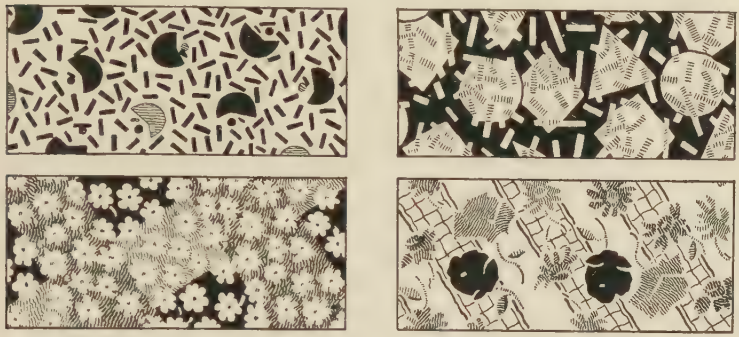
FABRIC STRIPES

1. Chevron Stripe. 2. Diagonal stripe. 3. Sports stripe.

Look at a plaid fabric and note that it consists of nothing but unevenly spaced straight lines or rectangles, and yet gives a distinctive effect. There is a certain tailored appearance that the use of plaid materials produces, and they are extremely smart.

The proper distribution of lines, masses of light and dark, and color, give an excellent chance for harmony in design. This is shown in the plaid with harmony of unequal spaces and color notes. Remember that color emphasizes good proportion and spacing and easily points out defects.

Fabrics with large designs or plaids and checks when made into costumes tend to attract attention to all points of the body, thus making the body appear larger.



1 2

FABRIC DESIGNS (one-fourth size)

1. Good for large women. 2. Good for small or thin women.

Woven and Printed Designs. Designs may be produced by weaving, dyeing, and printing. The design effects produced by weaving have been described on pages 182–188. Since the effects in woven design are produced by the interlacing of colored threads or threads of different sizes, it follows that shading can be done only in terms of the color of a single thread or yarn. In other words, the shading takes place from thread or yarn to yarn, and naturally the design does not appear as smooth or as even as a printed design. Woven designs are usually spoken of as dobby or Jacquard designs, which have been discussed on pages 185–186.

A single color is given to a fabric by a process of dyeing, immersing the fabric in a solution of dyestuff.

Printed designs may be placed on the fabrics by means of copper rollers. The dye paste, a mixture of dye, starch, etc., is impressed on the fabric by means of the etched design on the rollers. Each color requires a separate roller with the portion of the design in that color etched on the roller.

Some of the common designs for fabrics are as follows:

Pepper-and-Salt. In textile designing, a term used to denote a color effect, consisting either of a light ground (as white, drab, or grey) finely dotted or flecked with a dark color, as black or dark grey; or, of a black or dark grey ground thickly and evenly specked

with white or light grey. The term is especially applicable to fabrics and garments of wool.

Polka Dot. In textile designing, a name used to denote a pattern of large round dots or spots sparsely scattered over the surface of the fabric. The pattern may be produced by any of the prevailing methods of ornamentation; by weaving, printing, embossing, embroidering, etc.

Pompadour. In textile designing, a name used to denote small flowered designs printed or brocaded in bright colors; pink and blue are always intermingled in the pattern, and these are frequently heightened with vivid yellow. Pompadour effects are confined chiefly to silk and cotton fabrics. The pompadour parasol is a style of sunshade having a folding handle, and usually covered with moiré antique or other heavy silk.

Mélange is a term used to denote a black and white color mixture; also, by extension, small broken-up effects of different colors. Usually, melange is applied to woolen fabrics produced from yarn that has been either printed in the wool, or dyed in different colors and mixed together before being spun.

Clay Worsted. A variety of flat-twilled worsted woven with a twill similar to that of serge, the diagonal lines lying flat on the surface and barely perceptible. On account of the warp and weft being slackly twisted the cloth does not take a gloss as in the case of the ordinary hard-twisted worsteds. The name is derived from an English manufacturer, and it is from England that the best qualities are obtained.

Corkscrew Worsted. (So-called from its fancied resemblance to the twists of a corkscrew.) A particular weave which has for several years been extensively employed in the manufacture of worsted goods, more especially in cloths intended for men's wear. The prolonged duration and success of the corkscrew pattern has had but few parallels in the history of cloth manufacture, though at present clay worsted and cheviot are fast driving it out of popular favor. The structure of the ordinary class of corkscrew worsted is based on the sateen-twill principle. It is predicted that the time is not far distant when fickle fashion will cease entirely to smile on this particular weave, and then it will have had its run — together with broadcloth and doeskin, it will exist only as a memory of things that have been.

Bandanna Fabrics. Bandanna fabrics are fabrics made by the tie and dye method, in which the cloth is tied in knots at certain places to prevent the parts from receiving the dye. This method is a very remarkable means of producing designs in spots — round, oval or square — and plaids.

Antique is a term used to describe fine thread-lace wrought in former times and which has grown yellow with age; also applied to hand- or machine-made imitations of ancient styles of lace. In textile designing, antique signifies a pattern that is indistinctly or irregularly woven, printed, or watered, in imitation of those made by processes in vogue in previous centuries.

Iridescent is a term used in textile fabrics to describe a color effect produced by the use of warps and wefts of different tints and hues in silk fabrics. Properly, iridescent effects exhibit alternating or intermingled colors like those of the rainbow, as in mother-of-pearl. In its more general application the term describes any glittering of colors which change according to the light in which they are viewed, without reference to what colors they are, so long as they present a changeable metallic sheen.

Honeycomb. An ornamental weave produced in cotton and linen canvas by drawing the warp and weft threads so that the small lozenge-shaped spaces between them shall appear sunken, and the designs in relief. So called from a resemblance to the concave cells of a comb of honey.

Gossamer. (A contraction of " Godsummer," a name given by our very religious ancestry to the filmy cobwebs which float in the air in summer time, so called because these flying webs were considered as being the shreds and remnants of the Virgin Mary's shroud which she dropped to earth on her ascension to heaven.) A variety of gauze, softer and stronger than the ordinary kind, much used for veils. Also a thin, waterproof outer wrap, worn especially by women.

Woven Designs. Compare woolen and worsted suitings. Note that the worsted suiting with its fine diagonal effect is attractive in itself, due to the weave, while the woolen fabric, lacking this effect in such a prominent way, has more coloring to brighten and improve the quality of the design. In fact, color shades have improved the elegance of the design and appearance of all woolen

fabrics. Of course, color is used and does develop the design in worsted, but color is much more important in woolens.

The common designs or patterns in woolen and worsted fabrics are stripes, cords, checks, figures, or mixture — which is an intermingled effect. The stripes are produced by inserting a different colored thread as, for example, a single thread twisted around a worsted thread, making a two-ply yarn, inserted in weaving at definite places would give a very attractive stripe effect. The stripe effect would be enhanced by the pearly luster of silk against the deep luster background of the wool. Cord effects are made by inserting a heavier ply or twisted yarn in definite places.

Patterns in dress fabrics, shirtings, and other articles made entirely of cotton are frequently mere combinations of fancy shades, while fabrics composed of silk and jute, including silk ties, handkerchiefs, etc. — in fact, the cloths in which fancy shades are used — show that coloring and its combinations in all woven products embellished with design are elements which give the tone and character to the styles. Though the cloth may be soft to the touch, substantially made, of uniform structure, and skilfully finished, yet a lack of brightness and elegance in coloring so detracts from the appearance of the pattern that these qualities alone are not sufficient.

Look at a worsted serge and notice that the decorative or artistic quality is due to the diagonal effect, to the twill weave (which is due to the oblique lines), or to a stripe in the weave and the color, and then notice a Scotch plaid and gingham and observe the check effects and the colors.

The fundamental elements of the design in fabrics are one or all of the following: (1) the weave, (2) combination of lines that make the form of the design, and (3) the combination or blend of colors. Since the weave is the build or structure of a fabric, it is the most important element in the design.

The various methods of employing fancy shades in woven fabrics may be briefly summarized:

1. In mixture cloths, that is, with different colored threads used in weaving suitings, coatings, etc.: (*a*) By combining or blending various colors of materials in carding so that the different colors are in the yarns or threads. (*b*) By combining several classes of twist threads of different colors and kinds, wool and silk, etc.

2. In plain, twilled, mat and fancy weave designs for trouserings, coatings, suitings, jackets, dresses, costumes, flannels, shirtings, etc.: (*a*) By introducing colors in the warp, forming stripes. (*b*) By introducing colors in the filling, producing spotted patterns. (*c*) By introducing colors into both warp and filling, giving checks, broken styles, etc., called Jacquard or fancy dobbies in double weave.

3. In figured designs for dresses, vestings, etc.: (*a*) By using one or several series of extra warp yarn. (*b*) By using one or several series of extra filling.

Cotton Finishes. There are many special designs and finishes in cotton fabrics. Some are permanent like the (*a*) luster on mercerization, (*b*) printed design on a printed fabric, (*c*) stripes and checks, (*d*) stiffness, as in a washable organdie. On the other hand, there are other designs and finishes, degrees of luster, stiffness, etc., that are only temporary — disappear on washing. See Trade Edition of Dooley's *Textiles*, page 250.

Decorative Fabrics Used for Dress Goods. Within the last few years the creators of women's fashions have appropriated many of the upholstery fabrics formerly devoted solely to the use of the decorator, and have taken them for use in clothing. Brocades, chintzes, cretonnes, and all sorts of similar fabrics have appeared as frocks, smocks, coats, and bathing suits.

Summary. As we glance at a beautiful fabric or costume or, in fact, any piece of artistic work, our emotions are aroused and sentiments of admiration are quickly formed. When we begin to analyze our feeling as to why we admire the costume or work of art, we begin to see the underlying principles giving beauty to a good design.

The following facts underlie the principles of good design in fabrics:

1. Motifs of the same size and proportion of color appear monotonous. Hence motifs should be different, sizes and color should vary in space and intensity to add interest. This applies particularly to polka dots, stripes, checks, and plaids.

2. Motifs should have unity in all parts.

3. There must be harmony of line, shape, and proportion in the motifs.

4. The design should be adapted to the wearer. For example, large motifs or patterns are not suitable for large or stout people.

5. The design should not be too large to be covered completely by folds of the dress.

6. Motifs should be adapted to the purpose — naturalistic designs are out of place on dress fabrics.

7. Designs on fabrics should not be too conspicuous or take attention from one wearing the fabric.

8. The colors should be suitable as to design and wearer.

QUESTIONS

1. What is the relation between the fabric and the style of a costume?
2. What determines the style of a costume?
3. What determines the style of a fabric?
4. Give a clear definition of the texture of a fabric.
5. What does the textile of a fabric depend upon?
6. Explain how (*a*) weave, (*b*) construction, (*c*) twist of the yarn influence the fabric?
7. How is the (*a*) thickness, (*b*) thinness, and (*c*) weight of a fabric influenced?
8. What is meant by the finish of a fabric? Why is it an important factor in the style effect of the fabric and costume?
9. Explain how the nap of a fabric is produced.
10. State the effect of luster and non-luster fabrics.
11. What is meant by moiré and embossed? State the style values of each.
12. What makes one fabric soft and clinging while another which is crisp gives a bouffant effect?
13. What makes some fabrics wiry in feel and adapted for plaits but not for gathers?
14. Why are some fabrics well adapted for tucks and others that have a nap surface do not tuck well?
15. Why should velvets be made plainly so as to give a rich effect?
16. What is the difference between staple and fancy fabrics?
17. Why is it necessary to have staple and fancy fabrics?
18. How can one determine the true staple fabric from the fancy fabric?
19. How are the styles of fabrics determined?
20. Give the different degrees of styles, with examples.
21. Why do we have designs on fabrics?

CHAPTER IX

DRESS ACCESSORIES

Introduction. The extremities of the body — head, feet, hands — are conspicuous points and their covering or adornment has a great deal to do with the beauty of the costume. Gloves, hat, shoes, etc., may hold great interest and cause the eyes to linger so that the after-image of the person is affected by their attractiveness. For this reason attention should be paid to the choice of shoes, hats, gloves, umbrella, parasol, fan, jewels, etc. — which are called accessories. When carefully selected they may cover up defects by pleasing after-images.

From the beginning of history great attention has been paid to dress accessories. In fact, accessories such as (1) jewels, (2) hand bags, (3) shoes, (4) parasols, and (5) headdress, are very important factors in dress.

Self-Adornment. Self-adornment is as old as time. As far back as the records of civilization go, there is evidence that the human being dressed up in beads, shining bits of stone, and trinkets.

Savage tribes everywhere show the same tendencies, and modern woman likes to do the same thing. Ancient peoples must have felt that hanging bright-colored objects about the neck, or fashioning bracelets for the wrists and ankles, or garlands of leaves or flowers for the hair somehow enhanced their personal charm.

With these customs, also, there was often some mystic or religious significance. Many people even nowadays carry a rabbit's foot or a coin as a sort of charm. Thus, often unconsciously, we moderns subscribe to ancient rites, ideas, and ceremonies.

Modern woman has made self-adornment a necessary art. Clothes and jewels have been a sort of passion with women for centuries. This does not apply solely to woman. Man is not exempt from self-adornment, although he is more conservative, changes style less often, and does not bedeck himself with jewels as much as his sisters. Savage males, however, are just as prone to succumb to self-adornment as savage females.

Like everything else, self-adornment can be overdone. When it is used in moderation or when a degree of artistry and refinement goes with it, it can be made a forceful asset. Every woman ought to work out her own particular problem of personal adornment individually, adopting only that which is becoming.

Jewelry. Jewelry may be composed of expensive stones like diamonds, pearls, etc. — called precious stones — and less expensive, although not necessarily cheap, stones like aquamarine, turquoise, amethyst, tourmaline, opal, moonstone, and topaz, — called semi-precious stones. The latter stones have distinct value in both dress and beauty, and are becoming to most women.

These stones are set in precious metals — either gold, platinum, or other expensive metals. Gold has been and is today the standard metal for jewelry. For some time platinum, due to greater value, has replaced gold in charms and rings, but because of the many imitations of platinum there has been a tendency to return to gold.

The style of jewelry changes as in clothing. Sometimes gold is popular, while at another period platinum will be very popular. Brilliancy may be the watchword, as in the case of current jewelry, while dullness may be popular at another period.

The Orient plays a major rôle in inspiring our new jewelry. Sapphires and emeralds, that combination of blue and green that relates itself so well to the modernistic costume, is Eastern in its origin.

The selection of the proper jewelry is very important, as it either adds to or detracts from the costume.

Shapes of Jewelry. Jewelry is made of different shapes to make "lines," and placed on different parts of the form to aid in securing artistic effect. For this purpose we have the following classes of jewelry:

Rings of different sizes and shapes, with diamonds or precious stones either to (*a*) illuminate the swift gestures or (*b*) add beauty by calling attention to an attractive hand. Rings may vary in size from a plain wedding ring to a dinner ring, sometimes reaching from knuckle to knuckle. Rings are placed on certain fingers according to custom or the best line of beauty.

The manner in which a stone is placed in the ring, called the "mounting" or "setting," determines to a large degree the value of a ring. The mounting proclaims the period or date of a ring, according to authorities in jewelry circles.

RING

Emphasizes the lines of the hand.

Mountings grow ultra-modern in the present age. The unimaginatively mounted solitaire has given place to a ring of greater elaboration. New designs are planned with the idea of giving full play to a single diamond, but smaller stones are likewise set with the main gem to add brilliancy and enhance its beauty. The very newest of modern rings of this kind is set in a square effect, but with a mounting so skillful and artistic that the cost of a large, square-cut diamond is not necessary.

Modernized examples of beautiful rings contain small stones of conventional cut and also an alliance of emeralds or sapphires with the long-accepted engagement gem — the diamond.

Color in jewelry pervades the mode. Many clever women are having their jewels of earlier periods brought up to date by combining small stones from long-treasured but fashion-valueless pieces. These, when skillfully remounted, result in jewels of striking beauty and no little interest.

Besides rings, jewelry is worn around the neck (necklaces), around the wrist (bracelets), and in the ears (earrings). Of course jewelry may be worn in other places — breast pins, bar pins, etc. Jewelry, like other dress accessories, has its style periods — some articles, like rings, have a permanent place, while bar pins come and go.

The *LaValliere* is an arrangement forming a chain about the neck, composed of jewels and precious metals — gold, platinum, etc. Strings of beads of varying lengths may take their place. Bar pins reached a craze with tunic dresses.

Bracelets have never gone out of fashion. They may vary in size, design, and composition. Wrist watches for a time took the place of bracelets.

Earrings are one of the oldest forms of jewelry. Originally they were held to the ear by piercing the lobe and riveting the earring to the ear through the opening. But today earrings are made with screw backs, which do away with the piercing of the ear. All

EARRINGS

Small, round earrings are best for thin faces; long earrings for stout faces.

earrings tend to lend width to the face, and therefore every type of earring is more becoming to the woman whose face is thin or narrow than to the woman whose face is round. The earring that adds the greatest apparent width to the face is the large round button type. This of course tends to make the narrow face appear pleasingly round and the wide face unpleasingly heavy looking.

The woman whose face is moderately wide may find long, slender, pendant earrings becoming through the illusion of the long line that they create in face and neck. The woman whose face is very wide and full will find her features looking coarser and her face even wider if she adopts this dainty type of long slender earring, and the very thin will find the type most unflattering.

Pendant earrings for the tall woman of thin face are much better when somewhat massive in effect, increasing the apparent width of face and neck. The long, heavy earring, however, is more often

extremely unbecoming to all types than it is becoming to the one type just mentioned.

The woman whose face is definitely round must avoid absolutely the large round disc or loop earring.

Artistic (Style) Value. Jewelry should be selected for color and line, and not for intrinsic worth, by emphasizing good and hiding poor points. That is, jewels should be selected either to complete the costume or to give the keynote upon which a costume is built. To illustrate: If one wears rubies and they are becoming, plan the costume for shade and setting. On the other hand, if a woman has a beautiful blue gown, the jewels should be some precious stone to carry out the color scheme and add to the attractiveness of the wearer. If they do not, they are useless. Since jewelry is an ornamental device, it must do one or more of the following things: (1) make lines, (2) emphasize good and hide poor points, (3) continue or terminate lines, (4) add a note of interest to a gown. The principles of beauty applied to all forms of clothing apply equally to jewelry.

There must be designs in jewels as well as in dress, hence a single jewel, if it is handsome and the keynote of color of the dress, is far more effective than necklaces, bracelets, and rings. To be effective there must be unity in jewelry display. Proportion is also another factor. Jewelry may be small, with delicate workmanship and with colored or colorless gems, or larger and heavier, set with stones of lighter or deeper tones.

Since there is a right time and place for all kinds of jewelry, it follows that a woman's artistic sense or value of beauty may be determined to a large degree by the jewels she wears. Jewels are different from clothing in that they have permanent value and are handed down from generation to generation. Because they have permanent value, they often represent personal family history, and have sentimental value to the person wearing them. They may represent sweet or bitter memories, or both, of family history. Hence, old jewelry is worn for sentiment.

Crude, gaudy jewelry may attract attention, but it also shows

a lack of refinement. Imitation jewelry costs little, and looks well only on the day it is purchased. One is always attracted to a window of cheap imitation jewelry because it is carefully lighted to show its luster.

Since jewels should match the eyes or " tone in " with the skin or hair, it follows that because of the excessive brilliancy and hardness of the light, diamonds are not becoming to many women. Practically one woman in a hundred can wear them in order to make her look attractive. Pale women should not wear diamonds at all.

Semi-Precious Stones. The history of dress shows that jewels are an important element because they light and soften the features, and blend and add beauty to the different parts of the costume. Therefore, semi-precious jewelry should have distinct artistic value. During the past few years semi-precious stones have become important factors in proper jewelry.

No longer is semi-precious jewelry to be ranked as a fad, for it has attained real fashion value and general acceptance. To those who are at all interested in the problem of being smartly dressed, the selection of the right kind of jewelry is increasingly important. Even those who ordinarily are averse to wearing it in any form now realize that it has become an important factor in style.

Of distinct importance in the selection is the item of color in the metal and the stones. Hence, as mentioned before, both should harmonize or blend with the frock to be worn, and in so doing care should be taken to see that they suit the complexion and general tone of the skin.

Types of Jewelry. Besides the varieties of shape there are three general classes of jewelry. One is rather delicate and fine, consisting of either real or imitation pearls, diamonds, and other precious stones. Another type is sometimes called costume jewelry, and is far heavier and more exotic.

A third type, which, while it belongs in the costume jewelry category, nevertheless might be classed by itself, is the jewelry of galalith, celluloid, and other mediums, usually designed around the slave-bracelet type of links.

The first class of jewelry requires the daintier and more feminine type of garments, and in the accepted order of things that means a more delicate type of woman, too. Exotic and rather expensive so-called costume jewelry suits the more extreme frock as well as woman. And the third type of jewelry, costume jewelry's step-child, is suitable only with sport wear, beach wear, and the like.

Pearls. Pearls have stood the test of time and return to favor at frequent intervals. They are usually used as a necklace in graded form. The real seed pearl is a genuine oriental pearl of such diminutive size as to be of little commercial value because it is too tiny for mounting in jewelry. It was an old custom to grade pearls as to size by passing through sieves of different meshes. Those which passed through the very finest mesh were termed seed pearls.

Glass Jewelry. New conceits in jewelry are aglimmer with beads of colored glass, which is now used to a greater extent than metals. Not that the latter are *de mode*, but atrocious copies in cheap alloys have put a ban on gold and silver pieces unless they can lay claim to intrinsic worth.

Glass, on the other hand, may be cut and handled skillfully to produce very lovely lights and colors, yet making no pretensions to kinship with the precious and semi-precious gems.

Headdress. Since headdress occupies one of the most conspicuous parts of the body, great care should be exercised in its selection. In the history of costume, one will find great stress laid on proper headdress. The Egyptians wore headdresses composed of heavy wigs, sometimes over a foot above the head. The Greeks and Romans, on the other hand, were very conservative in relation to their headdress — usually a simple ribbon on the top of the hair, which in many cases was beautifully curled and arranged.

During the Middle Ages the headdress became very elaborate, taking the form of a sharp-pointed cap in imitation of Gothic architecture. At the end of the eighteenth century headdresses were exaggerated, so that the waistline was in the center of the figure, which made a short and stout woman appear grotesque.

The pompadour style of hair was named after Madame Pompadour and became very popular in the early part of the twentieth century. An elaborate hat loaded with plumes, on the pompadour, was styled the Merry Widow hat.

A pompadour gives an elongated effect, while hair parted in the middle and brushed down gives a shortening effect, sometimes to the extent of two inches.

Hairpin. A very useful and yet sometimes ornamental hair decoration is the hairpin. It is a pin used to support braids or plaits of hair, or to maintain the headdress in its proper position. The simplest kind is of wire bent in the form of the letter U, but hairpins are also made of tortoise-shell, celluloid, rubber, and aluminum, and in various shapes, often with ornamental heads or tops. The common hairpin of today has been in use about seventy-five years, but hairpins in general are of extremely ancient origin. Those used by Egyptian women in Cleopatra's time were seven or eight inches in length, often with large gold heads.

Hat Pin. The hat pin, the old-fashioned instrument of feminine torture, has come back in a gleaming and decorative form. No longer is its purpose to keep the hat from blowing away, but to embellish the somber velours and felts. Architectural shapes are fashioned of diamonds and suggest the architecture of Egypt, Greece, and Rome, and present-day Paris and New York.

Comb. This is a thin strip of some hard substance, one or both edges of which are indented so as to form a series of teeth, used for arranging the hair in dressing it; also, in a great variety of ornamental forms for keeping women's hair in place after it is dressed. Combs are of a considerable variety of materials, the most common, however, being the horns of cattle, vulcanite or hardened rubber, tortoise-shell, celluloid, bone, and, to a small extent, German silver and other metals. Of these materials, horn and rubber are by far the most extensively employed, and the working of these substances illustrates all the peculiarities of the craft. If combs are to be finished as imitation tortoise-shell, they are at this stage dipped into a heated solution of nitric acid, which gives them a light yellow tinge like the ground color of real shell. The deep spotting is next produced by dropping over the surface of the combs a mixture of caustic soda, lime, and red lead or dragon's blood. After an hour or

more this is washed off and the combs dried, polished, and packed in pasteboard boxes.

With the advent of the automobile, women found it desirable to have the hair completely covered, so it would not be blown by the wind while the motor car was moving rapidly. The result was a hat used to cover the hair completely. Many found it desirable to cut the hair so as to be relieved of the care of long locks.

Hair Nets. An ornamental and useful device for the hair is the hair net, which keeps the hair in position. Hair nets were originally made of fine silk. In order to obtain a more nearly invisible material, women conceived the idea of utilizing human hair. Practically all of the hair nets used in the country are imported from China. The human hair used is imported in the raw state, to be dyed here and then shipped back to that country to be fashioned. The hair is derived from the combings of the women, who are content to accept a few pennies for the amount they have saved for many months. The combings are gathered at three collection points — Hongkong, Canton, and Hankow. The hair is then straightened, assorted in various lengths, and made ready for export to the United States and Europe. In this country the longer hair strands, ranging from 22 to 36 inches, are picked out and the American hair-preparers bleach and dye the strands with powerful chemical agents. The various colors are thus produced for hair net making; namely, light, medium, and dark brown, blond, black, auburn, and white. The hair is further processed through many chemical baths in order to render it perfectly sanitary. The finished hair is returned to North China and there distributed or sold to the natives for manufacture.

One of the notable things about the production of hair nets is that so far, even in this mechanical age, it has been found impossible to make them by machinery. Owing to the fine texture of human hair and the shortness of the strands, no machine has yet been invented that is able to knit the delicate nets. All of the fashioning must be done by hand, and 95 per cent of all the hair nets produced are knitted in the homes of Chinese natives.

Feathers. Feathers of different kinds are used frequently for the decoration of large hats. The principal one is the *ostrich feather.* The feathers of the ostrich have long been known and used as

ornaments for the hats and costumes of women and for the uniform hats of men. The feathers on the back, extremities, wings, and tail of the ostrich are the most valuable, the long white feathers on the wing bringing the highest price. Black-and-white, drab, and ivory are the natural colors. There are no black plumes on the birds, these being produced by dyeing the all-white ones. All of the plumes of commerce are really double plumes, made by uniting two (or more) of the natural feathers. This is accomplished by paring down the stems and sewing them together, back to back. Tips are also often composed of several small sections neatly joined together and trimmed.

After the sewing and wiring comes the steaming process, in which the feathers are passed over jets of steam from boiling kettles to render them soft and pliable. Following the steaming comes curling. This represents the most artistic part of the work, and experts command high wages. The next operation is that of bending or shaping the feathers, this being effected by means of a small knife which the workman deftly manipulates, bending the wire a trifle here and there, and gradually but gently coaxing the feather into a graceful form. From the bender the plumes and tips go to the buncher, who arranges them neatly in bunches of threes and sews them into pasteboard boxes, after which they are ready for shipment to the trade.

Aigrette. This is a French term denoting the plume or feathery tuft upon the heads of many species of birds, such as the heron and mountain grouse. Hence, the term came to be used to designate the long, delicate, white feathers which, when arranged upright in a lady's headdress, are calculated to give a majestic appearance to the person. More recently the usage has been still further extended and any headdress bearing an upright ornament similar in appearance to a plume, is termed an aigrette.

Flowers. Since the beginning of time flowers have played an important part in dress. In the famous French courts, flowers formed one of the most important of the decorative motifs and the blossom chosen became the fashionable flower of the day.

Artificial flowers are used on different occasions in the place of

natural flowers. Charles Le Maire, theatrical designer, believes that for the woman in moderate circumstances the artificial flower is a lovelier accessory than even the natural one, because she can always keep it fresh and bright with a little expenditure of money.

When dressed for the street in a smartly tailored suit, tailored flowers that are not too fancy should be used. Camelias, gardenias, flat asters, and very small clusters of hand-made flowers are in good taste, as are also the new flowers made of felt and all tailored materials. The hat and the handkerchief that peeps out of the pocket should harmonize in tone with the flower.

Fur coats require full and round flowers and even shaggy ones, and they should be either the exact shade of the fur or an absolute contrast. Chrysanthemums, asters, bunches of violets, and open roses are all excellent.

On evening gowns the flowers should be used in bunches, long sprays, or soft clusters. They are most effective when made of gauzy materials such as chiffon, marquisette, or voile. They should be formal and soft at the same time. Sprayed gardenias, mixed bouquets of roses and violets in periwinkle, fuchsia, or violet for white gowns are lovely. For white silk, water or calla lilies, flesh pink gardenias, pale orchid violets, or deep cerise roses are effective.

If your gown is yellow, orange, or vermillion, nasturtiums in natural colors and large chrysanthemums are the proper flowers to wear.

The dress of black is mysterious, and it calls for mysterious or uncommon flowers to bring out its full beauty. The hibiscus, white moon flower, red poppy, white gardenia, and lilies of the valley are all good.

The carnation is one of the most adaptable of all the artificial flowers. If it is small, it is suitable for a tailored costume or ensemble.

Ordinary dark complexions look best when bright yellows and reds of the chrysanthemum, yellows and vermilions of the nasturtium, rose, reddish purples, and yellowy greens are worn.

Those who have very fair complexions look lovely in orchid, pink and blue of the sweet pea, in white and pale yellow.

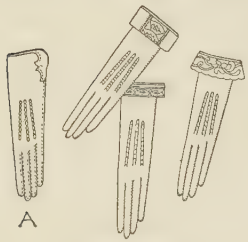
If you have a sallow complexion, you will find that the pastel pinks, orchids, and blues have a marvellous effect.

Gloves. The use of gloves is so old that relics of them have been found in the habitations of the cave dwellers. The Romans used them as decorative articles of dress and the Greeks to protect the hands when doing heavy work.

The gloves of ladies and gentlemen in the days of Queen Elizabeth, and before and after, were most beautiful in workmanship and embellishment, but they were usually shapeless things, and are not to be compared with the elegant style and artistic finish of the modern product.

When the social world was restricted in the number of its members who could afford some of life's luxuries, the use of the glove was confined largely to royalty, nobility, and the well-to-do. The trade not being extensive, prices were high — being added to by decorative elaboration in needlework in order that the manufacturer and his employees might extract as much money as possible from the ultimate buyer. While glove making is now one of the stabilities of modern manufacture, it is, nevertheless, constantly changing in style, due to eagerness for novelties and new fashions.

The early gloves, crude and clumsy, were cut with shears from leather by means of pasteboard patterns, and men did the cutting and women the sewing. A great step forward was taken when the sewing machine was introduced in 1852. With the advent of the sewing machine better-made gloves at reduced prices were placed on the market.



GLOVES

Broad hands should not wear heavy stitched gloves (A).

Gloves are manufactured as follows: The skins of the animal are treated in a tank where they are scoured and dyed. If the color is to be applied to but one side, it is done by hand with the aid of a brush while the skin is stretched out on a slab.

When the skins leave the dyehouse, they are rapidly dried in steam-heated lofts; and while stiff and rough they are worked into softness and smooth-

ness over a wooden upright standard, called a stake, at the top of which is fitted a blunt semicircular knife. Over this the skin is drawn by hand, back and forth, until it becomes as pliable and delicate as silk. The next operation is to pare the skins to uniform thickness.

The skin is then cut into glove sizes. The shapeliness of the glove which a woman draws over her hand depends altogether upon the intelligence and skill of the cutter. A punch next cuts these glove pieces into shape, forming and dividing the fingers, slitting the buttonholes, providing side pieces for fingers and thumbs, and also the fragments used for strengthening the buttonholes. The sewing is now done on machines of capacity for an exceptionally fine quality of intricate stitching. When sewed, and the buttons or fastenings put on, they pass beneath the critical eye of an inspector for detection of imperfection.

The first and fourth fingers of a glove are completed by gussets, or strips, sewed only on the inner side; but the second and third fingers require gussets on both sides, to complete the fingers. In addition to these, small, diamond-shaped pieces are sewed in at the roots of the fingers. Special care is necessary in sewing in the thumb pieces, as poorly made gloves usually give way at this point. Gloves are of two types: washable and non-washable.

Mousquetaire is a style of ladies' kid glove, distinguished by its long loose top and a lengthwise slit at the wrist; so called from its resemblance to a military glove, or the glove of a musketeer (French, *mousquetaire*).

The question of just the right glove to be worn with each costume is a vital one, for the glove should be, above all things, inconspicuous, and it cannot harmonize with the ensemble unless it is of exactly the right shade and type. The most important point, and one on which all women who dress well are agreed, is that the color of the glove should correspond with the stockings. With this as a starting point, differences of individual taste may be indulged to a certain extent.

Street gloves are more than mere accessories of fashion. So far as the hands are concerned, gloves are truly the guardians of beauty.

It is fashionable to wear gloves somewhat loose, so that they wrinkle slightly. One should have several pairs, as at least one pair

will be always in the process of being cleaned or washed. Clean gloves not only denote fastidiousness and *chic*, but they are necessary to beautiful hands.

Mitts are a sort of glove without fingers, or with very short fingers. Mitts sometimes cover the hand only, and sometimes the forearm to the elbow. A common material is black and colored lace; they are also knitted of silk of various colors. They were especially worn by women during the early part of the nineteenth century, the fashion dying out about 1830. Then the custom slumbered for 50 years, and was revived in 1880, or thereabouts, since which time they have not formed a staple article of dry goods throughout the country.

Umbrellas. Umbrellas are used for decoration as well as utility. Hence care should be exercised in selecting the proper shape and color. Umbrellas are made of different sizes, materials, and colors. Silk is the most expensive and shows the colors to best advantage.

The umbrella lays claim to a pedigree of the highest antiquity, having had its origin in very remote times in the Far East, and in some Asiatic countries it was, and still is, regarded as an emblem of royalty, or a mark of distinction. In ancient Greece its use was familiar among women for protection from the sun, and it is frequently represented in paintings and sculptures. As a defense from rain or snow, it was not used in England till early in the eighteenth century.

In the first days of the manufacture, the elaborate structures of gingham or oiled silk, whalebone or cane, were very heavy, sometimes weighing as much as five pounds. Each successive advance has been primarily devoted to securing lightness, and after that to improving materials and mechanism. For a hundred years after their introduction into Europe, there was little or no improvement until alpaca was substituted as a covering instead of oiled cotton. In those days the ribs were made of whalebone or cane. If distended when wet, and if permitted to remain until dry, this substance would permanently assume a bent shape. Steel ribs came into use about 1852, and in 1860 the concave paragon rib was introduced.

To describe the process of umbrella making is simply to explain how the component parts are put together. The sticks come

from all parts of the earth. They are usually in two pieces, for the ornamental handles are generally parts of rough, knotty shrubs, while the main stem should be straight, smooth, and strong. As they arrive at the factory in a comparatively unfinished state, the first thing to be done is to cut them to the required length, then to fix in the springs which are required to hold the umbrella when open or closed. This operation is performed by a small circular saw, against which the workman presses the stick, and by intuition apparently the slot is made to the exact depth required. The springs are then riveted, and the next process is the adjustment of the frame-work. The frame-work of silk umbrellas consists (usually) of ten ribs and ten stretchers, while cotton umbrellas have from eight to sixteen ribs. Each has a runner which slides over the stick, and a ferrule which secures the ribs to the stick. The ferrule and runner are slipped over the stick, while each rib and each stretcher has an eye through which wire is passed and drawn up to the runner and fastened. The ribs are secured in the same way to the ferrule, the latter is riveted to the stick, and the frame-work is complete. The frames are then handed over to girls, who cover the joints with small bits of cloth.

In preparing the covers the first thing is to hem the silk; afterward the portions of the cover are cut and sent to the machine room to be stitched together. When complete, the cover is slipped over the frame-work and sewed fast to the ribs, the cap or metal top piece is affixed, and the umbrella is finished. Umbrella silk is of special make and is usually sold by the inch of width for every yard length. All-silk covering sells for from two and one-half to five cents per inch. Piece-dyed cotton and silk covering is made in this country, but yarn-dyed mixtures are imported. Umbrellas range in size from 26 to 36 inches. A size of an umbrella is one inch of the length of the rib.

Handbags. Handbags are made of leather, fabrics, tapestries, etc., of different sizes and shapes and colors. The bag may harmonize in style and color with the costume or, as at the present time, match the shoes.

Tapestry is used for bags as well as for coats and other wearing apparel. This does not mean, of course, that any kind of tapestry is appropriate, for only the finely woven kind seems to be sought

after. The patterns include designs copied from the rare tapestries of Belgium, France, and Italy.

Felt has been used and is a close rival to leather in handbags, and bears the distinction of being much newer and markedly different. Felt is easily cut and sewed, and a stunning bag may be built around a frame purchased separately. Pouch bags of felt are more easily made and often depend on simple stitching or a modernistic applique for their *chic*.

There is always a vogue for the beaded bag. As long as it retains a sparkling outer surface, it is a valuable asset to any wardrobe. It is a simple matter to keep these lovely and useful articles in perfect condition. The necessary equipment consists of plenty of soft cloths, soap, and some lukewarm water. Place the bag on a cloth laid out flat on the table. With another cloth dipped in soapy water, go quickly and briskly over the surface of the beads. Rinse off the soap by rubbing with a cloth squeezed out of clear warm water. Try not to allow any more moisture than is necessary to soak into the threads on which the bag is strung or into the lining of the bag. An electric fan will aid the drying process. When dry, polish by rubbing briskly, but lightly, with a fresh, dry cloth. This treatment will not destroy the luster or remove the color from the beads unless, of course, they are painted with a color which is soluble in water. This, however, rarely happens with bags of the better kind.

Footwear. The feet must have for outer covering more substantial clothing or material than the rest of the body because they come in contact with the ground. The outer foot covering should be strong, pliable, porous to some degree, etc. The one material that meets these requirements is the skin of animals, deprived of the hair and fat and made into leather. In stormy weather or on wet ground a water-proof covering called rubbers supplements the shoes.

Shoes should be adapted to the purpose or occasion. Those with high heels and pointed toes are intended for dress affairs and are not adapted for business purposes.

Tanning. There are two different kinds of tanning, the vegetable and the chemical. In the vegetable processes the tanning is accom-

plished by tannin, which is found in various barks and woods of trees and leaves of plants. In the so-called chemical processes the tanning is done with mineral salts and acids.

The materials used to tan hides and skins act upon the fibers in such a way that they are rendered proof against decay and become pliable and strong. There are many vegetable tans; they are used for sole leather, upper leather, and colored leather for numerous purposes.

To a large extent the so-called chemical processes have supplanted the vegetable processes, that is, old tan bark and sumac processes. In the old bark process the tan bark is ground coarse and is then treated in leaches with hot water until the tanning substance is drawn out. The liquor so obtained is used at various strengths as needed. In the newer method the tan liquor is displaced by a solution of potassium bichromate, which produces the results in much shorter time.

Kinds of Leather. Leather used in shoes is divided into two classes: sole leather and upper leather. Sole leather is a heavy, solid, stiff leather, and may be bent without cracking. Upper or dressed leather is made from skins of calves, alligators, crocodiles, and other animals. It is tanned and finished like all other forms of leather by variations of the foregoing processes. The parts of the leather from the hair side are most valuable and are called "grain" leather; the inner parts or "flesh splits" are made into a variety of different kinds of leather by waxing, oiling, and polishing.

Glazed kid or goat leather is colored after it is tanned by submerging it in the dye — a very important process. The glossy surface is obtained by "striking" or burnishing on the grain side. It is made in black and colors, particularly tan, and is known by about as many names as there are manufacturers of it. Glazed kid is used in the uppers of shoes, making a fine, soft shoe that is particularly comfortable in warm weather, and is said to prevent cold feet in winter, owing to unrestricted circulation.

Mat kid is a soft, dull black kid, the softness being the result of treatment with beeswax or olive oil. It is finished on the grain side the same as glazed kid, and is used principally for shoe toppings. It is similar in appearance to *mat calf* and is often used in preference to it, as it is of much lighter weight and about as strong.

Suede kid is not tanned, but is subjected to a feeding process in an egg solution, called " tawing," to make it soft and pliable. The skin is stretched and the color is applied with a brush. The color does not permeate the skin, but is merely on the surface. Suedes are made from carbarettas and split sheepskins. They are used very extensively in making slippers, and come in a great variety of colors.

Castor kid is a Persian lambskin finished the same as a suede, and is used in making very soft, fine-appearing glove leather. The skin is of such a light weight that it has to be " backed up " before being made into shoes.

Cloth is often used in the tops of fancy shoes.

Leather Clothing. Leather from time to time has been an important part of the costume. You will find touches of it where you least expect — a leather band about a hat, for instance. It may be suede, or it may be leather that is finished with a shiny surface, but it should be the same color as the hat itself.

Then there are leather belts, so designed that they form really the central interest of the costume. There are leather coats with soft color and superlative tailoring. Some of them are long and have soft fur linings. Short leather jackets are very good for sports and have almost entirely taken the place of the heavier sport sweaters and windbreakers which used to be popular for this sort of wear. There are also hats made entirely of leather, and leather separate skirts have also been featured by some designers. Leather trimmings are to be found in all types of sport clothes, for edgings, for pocket flaps, for any touch, in fact, which is part of the modern sport dress. Crocodile leathers and those from all kinds of reptiles are most interestingly used for shoes and bags, and oftentimes for trimming.

Rubber Shoes. Examine the rubbers we wear during the winter and stormy weather. Rubber shoe coverings are made to protect the shoe from water and snow and may be in the form of either slippers or arctics. The covering is rendered waterproof by means of a compound rubber or an emulsion solution of some oil.

Rubber is the name given to a coagulated milky juice obtained from many different trees and shrubs that grow in the regions extending some three or four hundred miles on either side of the equator.

The fluid rubber obtained from Brazil is called Para and is used principally in the manufacture of rubber footwear. The native first clears a space under a number of trees and proceeds to tap the trees with a short-handled ax, having a small blade, by cutting gashes in the bark. A cup is fixed under each cut to catch the fluid as it flows out. As fast as the cups are filled, they are emptied into a large vessel and carried to the camp to be coagulated. A fire is started in a shallow hole in the ground, and palm nuts, which make a dense smoke, are thrown on. An earthen cover which has a small opening on top is placed over the fire, allowing the smoke to escape through the opening. A wooden paddle is first dipped in clay water and then into the latex and then held over the smoke. The heat coagulates a thin layer of rubber on the paddle. It is dipped again and again in the latex and smoked each time. After being dipped many times a lump (called biscuit) of rubber is formed. A cut is made in the biscuit and the paddle removed. Then the rubber is ready for market.

Few people realize the number of operations necessary to produce from the crude biscuit of India rubber the highly finished rubber shoe of today. Briefly stated, the various steps are washing, drying, compounding, calendering, cutting the various parts, putting these parts together, varnishing, vulcanizing, and packing. Each of these processes requires a distinct and separate department, and many of these processes are subdivided into minor operations.

Rubber shoes should not be expected to give satisfactory service unless properly fitted. If too short or too narrow, or if worn over leathers with extra heavy taps, or unusually thick, wide soles, strains will be brought upon parts not designed to stand them and the rubber will give way. Rubber goods, particularly boots, if too large will wrinkle, and a continued wrinkling and bending is liable to cause cracking.

Extreme heat or cold should be avoided. Rubber boots or shoes should never be dried by placing them near a heater of any kind. If left near a stove, register, or radiator, the rubber is liable to dry

and crack. If left out of doors in winter, or in an extremely cold place, they will freeze. Then when the warm foot is put into them and they are worn, the rubber will crack.

Oil, grease, milk, or blood will cause rubber to decay in a very short time. If spattered with any of these, the rubber should be promptly and thoroughly cleaned with warm water and soap.

Fans. An accessory that comes and goes with fashion is a fan, which is used for cooling the face and person by agitating the air. The first fans were composed of feathers, representing the joining of two fowl wings, and are of oriental origin. The present use of the gorgeous peacock fans by the attendants of the Pope on ceremonial occasions is a survival of the custom of the slave waving a fan before a priest of Isis. The fans that stir the air before the rulers of Asia are of the shape noted above. The most ancient Egyptian fan known is over 3500 years old. It is a bas-relief of Nimrod, which represents a slave in the act of cooling a liquid contained in a pitcher, with a fan shaped like a palm leaf. This is a frequent subject of Egyptian decoration.

Whether Catherine de Medici obtained the folding fan from the East, or not, is unknown; but at any rate it was she who introduced it into France in 1580, and covered it with painting and jewels. A little later (1591) one set with diamonds of great cost and beauty was presented to Queen Elizabeth of England. Possibly the fan came into Spain from Mexico; if it did not, its use was greatly increased with the coming of Mexican wealth, as the Emperor Montezuma had several fans of gold and the wondrous featherwork of his country, beautiful as any painting. But from whatever source it came, the Spanish señorita adopted it.

In Japan, the fan is as universal as a garment, constituting as truly as any other article one of the necessities of life. It is at all seasons an inseparable part of the Japanese dress. It is a shelter from the sun, a protection from the rain, a notebook, and a plaything. The umpire at wrestling and fencing matches uses a heavy one, shaped like a huge butterfly, the handle being the body, and rendered imposing by heavy cords of silk. The various motions of the fan constitute a language, which the wrestlers fully understand and appreciate. Formerly in times of war, the Japanese commander used a large fan formed of a frame of iron covered with

thick paper. In case of danger it could be shut, and a blow from its iron bones was no light affair. The originality of design and unique ideas used by the Japanese in making fans are proverbial. One notable variety is made of waterproof paper, which can be dipped in water, creating coolness by evaporation, without wetting the clothes. The fan made of rough paper is used as a grain winnow, to blow the charcoal fires, and as a dust fan. The Japanese gentleman of the old school, who never wears a hat, uses a fan to shield his eyes from the sun. His head, bare from childhood, hardly needs shade, and when it does he spreads an umbrella, and with his fan he directs his servants and saves talking. The varieties of these fans would form a curious collection in respect to form as well as quality. Paper enters largely into their composition. Bamboo forms a material for the frame-work of the cheaper kinds. The paper is either decorated with paintings in the different styles of Japanese art or else brightly colored and sprinkled over with silver and gold leaves.

The most costly fans for general use are made of ostrich feathers and mother-of-pearl sticks.

QUESTIONS

1. (*a*) What is meant by dress accessories? (*b*) Why are they important? (*c*) Name the principal accessories.
2. (*a*) What is jewelry? (*b*) Why is it an important part of dress?
3. (*a*) On what grounds should jewels be selected? (*b*) Illustrate your answer with concrete cases.
4. (*a*) What must jewelry do to a costume in order to be effective? (*b*) If jewelry is (1) small, or (2) large, what should be the artistic qualities?
5. (*a*) Name the different kinds of jewelry. (*b*) State the appropriateness of each kind.
6. What is the value of old jewelry?
7. State the disadvantages of crude and gaudy jewelry.
8. What is the style value of a ring?
9. (*a*) Why are diamonds popular? (*b*) Are they always artistic? (*c*) State the type that can wear diamonds to best advantage.
10. What is the artistic value of a La Valliere?
11. (*a*) Why is platinum jewelry popular? (*b*) Why is gold coming back again in preference to platinum?

12. State the artistic value of bracelets and bar pins.

13. Why is the headdress an important factor in the costume?

14. What are the principal devices used in hair decoration? State the artistic value of each.

15. What are the principal decorations for hats?

16. (*a*) What is an aigrette? (*b*) What are the artistic or style values of feathers or aigrettes?

17. What is the style or artistic value of flowers?

18. State the most effective style effects for different flowers and colors.

19. What is the artistic and style value of gloves?

20. What is the artistic and style value of an umbrella?

21. What is the style and artistic value of a handbag?

22. (*a*) What is the purpose of shoe clothing? (*b*) What materials meet these requirements to best advantage?

23. Describe the manufacture of rubber.

24. What care should be taken in selecting rubbers?

25. How may rubbers and shoes be conserved to the greatest extent?

26. (*a*) Describe the useful and style values of fans. (*b*) How are they made?

CHAPTER X

CLOTHING FOR HEALTH

Importance. One of the most serious problems that confronts every one is that of maintaining good physical and good mental condition, free from pain and disease — that is, enjoying good health.

We saw in the previous chapter that clothing covers the body to (*a*) prevent injury, and to (*b*) keep the body warm, as well as for modesty and artistic purposes. There is a direct connection between health and clothing, and proper clothing contributes in a marked degree to good health.

Source of Bodily Heat. The foods that enter the mouth are digested, partly assimilated, and the rest discharged from the body. The portion that is assimilated is changed by chemical processes which give off heat. The chemical processes take place through the union of the oxygen of the air taken into the lungs and the assimilated food in the blood. It has been estimated that the amount of oxygen, by weight, taken in daily is equal to the sum of all other food elements.

The heat of the human body must be maintained at $98\frac{3}{5}°$ F., the temperature necessary for the best performance of the normal functions. Any continued variation from this degree of heat indicates disease. It is important that there should be no considerable lowering of this temperature, for a fall of one degree is dangerous. Hence, the importance of the study of clothing to aid in maintaining a constant temperature of $98\frac{3}{5}°$ F.

The generation of heat depends upon the proper circulation of the blood, which in turn depends upon the action of the heart. If one has a slow circulating system, this fact must be considered in providing warm clothing.

Knowing the changes that take place in the body, it follows that the first purpose of clothing from the point of view of health is warmth; that is, the maintaining of a uniform temperature. Heat passes from the body (1) by the evaporation of perspiration, which produces coolness; (2) by conduction, that is, passing from the body to the clothing, etc.; (3) by radiation, the passing of the heat directly from the body to the air.

Ideal Clothing. The human body in its ideal condition should have a constant temperature of $98\frac{3}{5}°$ F., the clothing should be (*a*) dry and free from moisture and perspiration, (*b*) well ventilated so that the body odors may escape, (*c*) so fitted as not to interfere with activity of any kind.

Clothing made of wool and silk feels warmer than that made of cotton and linen. The reason wool feels warmer than cotton is because wool is a poor conductor of heat, while cotton is a good conductor. Because wool holds the heat is the reason it gives us the sensation of warmth.

Air, particularly still air, that is, air not in motion, is a poor conductor of heat. Hence, loosely woven fabrics or napped fabrics with air spaces in them are warmer than closely woven or felted, board-like garments.

Two light-weight garments are warmer than one heavy-weight, due to the layer of air, which is non-conductor.

For outer garments a close weave is better than an open weave, because it prevents a too free passage of air.

Garments worn next to the body should be open in weave, light in weight, and provide ventilation.

The amount of heat conducted by a garment depends not so much upon the combination of fibers as upon the amount of air held in its meshes. Furs are warm owing to the air imprisoned among the hairs.

Absorbing Power of Fabrics. We saw in Chapter VII that the characteristics of fabrics were the characteristics of the fibers. A study of the fibers will show that they differ in power of absorbing moisture and giving it off gradually.

Perspiration. The human body is covered with openings called pores through which perspiration is given off from the glands. The amount and strength of perspiration varies with different people. On the average, over three pounds of matter in the form of perspiration — solution of salts, acids, etc. — are given off in twenty-four hours. Most of the perspiration comes in contact with the clothing and is absorbed. If it is not absorbed by the clothing, the pores or glands become clogged; hence, the need of proper clothing to absorb the perspiration as soon as it is given off and to allow its evaporation. If it remains too long on the garment, a feeling of dampness is experienced and the body is chilled.

The absorbing power of a fabric depends upon the condition of the fiber. Linen, due to its smooth surface and lack of oil, has more absorbing power than cotton with its porous, waxy surface. Since cotton takes dirt between two and three times as fast as linen, cotton should be laundered oftener than linen.

Wool and silk absorb moisture in the same amount, although wool with age decreases in its absorbing power due to the felting in laundry. Silk is better, but rather expensive. Cotton and linen have less absorbing power than wool or silk, although linen evaporates moisture quicker and therefore feels cooler. This may be counteracted by an open weave.

Wool, from its very nature, holds grease and dirt more than cotton and linen, hence should be brushed or cleaned often. Washing has a bad effect on wool and silk clothing, therefore dry cleaning is more effective. Wool is warm, absorbing, but felts in washing, and loses its warmth. A mixture of one-fourth to one-half cotton will prevent this felting and make it admirable for underwear.

Silk is warm, absorbent, elastic, but rather expensive for underwear. If carefully handled in washing, it is a question whether it is really expensive. Silk alone for underwear is uncomfortable at times, due to its smooth feeling. Cotton or linen-silk mixture is better, or wearing pure silk underwear over thin cotton.

Cotton and linen, if properly woven, will suit the normal person. They make excellent underwear, since it is easy to wash and absorbs moisture and has proper ventilation. Too open a weave will allow too great a movement of air and makes it unsuitable. Linen allows rapid evaporation, hence has an added advantage of coolness.

Experiments show that cotton is about 25 per cent warmer than linen with the same weave and thickness. This difference should prevent any one who is not strong from wearing linen underwear.

Freedom. In order to do our work effectively it is necessary to have free movement of the body. This means that the clothing should not be tight or its weight excessive, and it should hang as easily as possible from the strongest part of the body. This applies particularly to corsets, garters, shoes, or tight clothing.

Great care should be exercised in exposing any part of the body to extreme cold. If one is extremely strong physically and has a strong heart with proper circulation, he may be able to withstand such exposure. But care should always be taken not to overwork the physical powers.

Types of Clothing. We can divide clothing according to health standards into the following groups: (*a*) protective clothing, (*b*) outer clothing, (*c*) underclothing. Protective clothing includes overcoats, raincoats, rubbers, etc., that we wear to protect us from cold and rain or snow. Outer clothing is the clothing we wear in the office or house under formal or informal conditions. Underclothing is the clothing we wear under the outer clothing and next to our body.

Each division of clothing should vary in weight and composition for the different seasons, as lightweight underwear and outer clothing for summer, while heavy underwear and outer clothing are used for winter. Thus, clothing should be adapted to the temperature in order to give uniform warmth to the body.

Characteristics of Underwear. Clothing worn next to the

body and underneath the dresses is called underwear. Since underwear that is used for everyday wear must be laundered frequently, it should be of a structure and materials that will withstand frequent laundering. Underwear may be either woven or knitted. Woven underwear includes muslin, cambric, crepes, sateens, etc. The new translucent materials which are adapted to frequent washings are durable, while batiste and nainsook, much thinner and cooler than the other fabrics, are not so durable. While woven underwear is daintier and more attractive, due to thinness and softness, it does not launder as well as the knitted fabrics.

Knitted fabrics are more elastic and softer (due to loosely spun yarn) than the woven fabrics. They wear better than woven fabrics if they are well cared for. Knitted fabrics should not be pinned, as pin holes will destroy the structure of the fabric. Lisle is better than plain cotton.

Summary. Underwear is made of many sorts of material, as silk, cotton, wool, linen, stockinette, spun silk, lace, cambric, merino, flannel, nainsook, elastic, jean, muslin, etc. There has been much dispute among the advocates of the various fibers as to which is the most suitable for underwear. Wool has been recommended by eminent medical authorities for both hot and cold countries on account of its property of promoting insensible perspiration, which, being absorbed by the spongy material, is immediately distributed *equally* throughout the whole thickness of the fabric, and thus, being exposed over a large surface, is carried off by the atmosphere and keeps the body at the same time at an equal temperature. Wool is a non-conductor of heat and electricity, and therefore tends to preserve to the body its normal measure of these vital energies. All kinds of animal wool and hair readily absorb the excretions of the skin, do not retain them, but transmit and disperse them at their outer surfaces by a repulsive energy to which the self-cleansing properties of hair and wool are properly due. The value of this feature of woolens is very apparent.

Silk is also recommended for underwear, and possesses several advantages over other fibers. The fiber of silk is perfectly smooth,

symmetrical, and solid, not hollow like cotton and linen fibers, and without the minute scales peculiar to wool. Silk is a great absorbent because its fibers are so glassy fine — a sort of spidery catgut — and fluids, water, or perspiration creep between the fibers and are held, yet will pass out quickly, evaporating and drying, or will wash out readily. It is like glass, in that nothing clings to it. In its natural color silk accumulates no germs of disease and moths and bugs find no home in it. For these reasons, when made up into underwear it is hygienic and sanitary.

Linen is advocated as a superior material for underwear on account of its absorbent qualities. The majority of the peasants of Russia wear linen next to the skin and claim that it is as warm as wool, and in addition that it wears longer, is more easily washed, does not shrink, and sheds dust and dirt readily.

Furs. Protective clothing should be warm. It may be a coat, cape, overcoat, etc.

Coats may be composed of cloth or fur or both (cloth coat, trimmed with fur). A cloth coat can be worn by any type of woman. Fur used as a decoration has the softening effect so essential to the skin of the woman of today and the decorative element so necessary to the cloth coat.

The short, fine, downy coat of certain animals, distinguished from the hair, which is longer and coarser, but more or less of which is generally present with it, is known as *fur*. Fur is one of the most perfect non-conductors of heat, thus a warm covering for animals in cold climates, and admirably adapted for human clothing, either attached to the animal skin or separated from it. The finest kinds, as those of the sable, ermine, seal, beaver, otter, marten, etc., are among the costliest of clothing materials, both on account of their rarity and the amount of labor involved in their preparation. Primitive man knew the value of furs both as a protection against the cold and for purposes of adornment. This appreciation of their worth has come down to us through ages.

Furs are of two classes: (1) long-haired, such as lynx and

fox in natural and dyed colors, and (2) short-haired furs. You have your choice between the long-haired, flattering, fluffy furs, if you are slim and not too short, and the sleek short-haired pelts that can be just as flattering when they are used in the right way.

While the long-haired pelts are stylish, designers recognize that the larger woman cannot wear them well, and they have trimmed many of their smartest coats with short-haired pelts.

Lynx, lynx cat, badger, fox, king fox, kit fox, wolf, wolverine, and skunk are the most important of the long-haired furs used on winter coats. Nutria, beaver, unplucked beaver, otter, unplucked otter, kolinsky, mink, shaded rabbit, ermine, caracul, pony, krimmer, astrakhan, and mole are the names of most of the short-haired furs that are seen.

Different Kinds of Furs. Fashions in furs have called into use many new pelts in widely diversified forms. The number of these is amazing, and shows the extent to which the vogue for fur has increased. Where once a fur coat was a prized possession, or two a luxury, now many women of fashion own fur coats of each of several types. Such are the opportunities for wearing them that the pelts of the familiar kinds of animals and many never before considered are now used for the different wraps, coats, trimmings, and accessories. Some of these have names that conceal their real identity, but even the lowly ones came into fashion several seasons ago and are still considered *chic*.

Fox skins come in very large sizes and in many varieties. The novelty in the new scarfs consists more in the design or manner in which they are adjusted than in the treatment of the skin itself. It is still usual to see a handsome, bushy-tailed fox scarf draped about the neck or shoulders in some picturesque manner.

The rarest and costliest furs are made into small scarfs to be worn close about the throat, with such variation in treatment as is possible. Sable and ermine are among them and are offered as a youthful touch for daytime frocks. A scarf of caracul, broadtail, or any of the short furs is made in a straight piece six to ten inches wide, long or short, to be worn in any one of several new styles.

When matching skins in a piece, the best appearance is produced

by arranging them so that the fur of no two adjacent skins runs in the same direction. This produces a checkerboard effect that is pleasing.

FUR-TRIMMED COAT

In furs, attention is paid to the perfect matching of minute skins. Ermine, for example, in its snowy softness, depends on a perfect matching of the skins of hundreds of small animals.

Mink has its own particular grandeur, and will do equally well for evening wrap or afternoon coat. Its warm color blends into the tawny brunette shades, and contrasts becomingly with the extreme brown.

Sable has always been associated with splendor. It is used in making straight-line coats, with surprising neck-pieces of self-skins, and small, exquisite animals wound about the sleeves.

A fur that is rarely seen, but should have a large following among brunettes, is chinchilla. Its grey, tipped with black, brings out the gleaming onyx of dark hair, and contrasts its tenuous grayness with the warm ivory of the skin.

Grey, silky broadtail lends itself to soft feminine flares and folds, bordered lavishly in blue fox, or in tailored applications of self-fur. Black broadtail, manipulated into soft and flowing lines, depends on deep wide sable for its borders and softly rolling collar.

Imitation Furs. No other class of merchandise admits of so much deception as furs, and many are sold by names unknown to natural history. In the fur business, as in many other departments of commerce, the unscrupulous are ever endeavoring to produce imitations, and in few lines has this been carried to such a successful degree. Rabbit and " coney " skins are not the only pelts which are transformed into furs which bear the names of animals living in ice and snow. Monkey skins from Africa and South America are sent to the furrier to be made into fine raiment. Large numbers of ordinary Chinese cat skins are utilized to supply the demand for seal and beaver. The shaggy curls of our native fox-tailed squirrels are sold as imitations of rare furs. Muskrat is often blended to imitate mink, and marten to look like Russian sable. The United States buys more imitation furs than any other country, but millions of

them are sent to China each year to line the robes of the mandarins. Large numbers of rabbit and cat skins are dressed and dyed in this country, but the French have the credit of producing the best imitations.

To meet the demand, the fur dyeing industry almost revolutionized itself. Skilled dyers perfected methods of turning rabbit skins into leopard, ocelot, antelope, giraffe, twin beaver, ermine — almost anything, in fact, you might call for.

The fur industry makes no secret of its imitations. " Hudson seal," which has been marketed for years, is confessedly American muskrat dyed black. " Crown sable " is frequently the white and grey bellies of rabbits, dyed, or the pelts of other small animals. " Chinchilla " is usually squirrel and rabbit. " Blue fox " is often Italian lamb. " Silver fox " is made by " pointing " red, gray, and cross foxes, that is, by inserting long, gray hairs into the leather.

Beaver. Beavers are compact, heavy-bodied, strongly-framed animals, with dense coats of fine, soft, waterproof under-fur, hidden by coarse outer or guard hairs, generally of some shade of dull or rusty brown. The longest, heaviest fur is produced in cold climates, and the best beaver country is found in the Canadian and Hudsonian zones, regions usually of relatively little agricultural value. Beaver skins should be taken only in midwinter, when the fur is prime, unless there should be a special demand for unplucked beaver fur, which is at its best before the outer guard hairs are full grown.

Hygiene. Perhaps there is no subject on which people differ more than on the nature of the dress that should be worn at various times of the year. A generation or two ago there was a theory that the body should be protected with considerable clothing. But today, experience of medical men shows that on general principles the more one's body is exposed to light and air, the better for one's health, since the skin derives all the advantages which the rays of the sun afford and the ventilation which the free access of air supplies. Many consider that the same clothing should be worn at all times of the year, and that overcoats and cloaks are sufficient to meet the lower temperature of the weather when out of doors. In proportion as it is

cold, a thicker covering can be worn, even to using a leather coat in an open car.

In this way, the air has free access to the skin while in the house, and so helps to eliminate such moisture and effete products as are discharged from it. Again, the lighter clothing of today enables and tempts one to get about and to lead a more active life than did the thick garments that used to be worn even indoors.

The women of the present day are much wiser than the men since they wear a minimum amount of clothing. A certain amount of covering is necessary for the body, not only for purposes of modesty, but also to render its form more graceful and attractive.

Dressing must be controlled by these considerations and conventions. It is well to remember that the extent of the body which it is customary to expose to the sun and air is ruled largely by custom and the rules of the society of the period.

Much clothing both in weight and quantity was once the style. While heavy clothing, with long skirts and much under-clothing, is desirable from certain manufacturers' points of view because they increase the consumption of textiles, from a hygienic point of view it is not always desirable.

The long skirt is heavy, especially when made of winter fabrics, and tends to put an additional burden upon whatever part of the anatomy may be utilized to suspend it. This is liable to be the hips and waist. When this occurs, there will be a demand for the return of the old vicious and constricting corset.

It may be laid down as a rule that during the greater portion of the year in northern climates undergarments of heavy material should be worn by persons exposed to the weather. However, it is unnecessary and unwise for individuals following indoor occupations to wear the heavier varieties of underwear. The person who changes his gauze for the heaviest flannel on September 15, and continues these heavy garments until May 15, regardless of the various changes in the weather, may be as much in error as he who wears only gauze the year round. A clerk who is in a warm room the

greater part of the day is not expected to wear the same weight of underwear as a teamster or a truck driver, who is out of doors and much exposed. In short, one's underwear should depend upon the degree of his exposure, and should be of a weight that will insure the greatest comfort during that part of the day when he is at his particular occupation; and if more warmth is required when not at work, it should come from additional outer clothing.

Effect of New Fabrics. Since the last generation modern costumes have been made better for the following reasons: invention of worsteds which give a straight line — tailored effect — to the clothing of both men and women (machinery for making worsteds was invented about the middle of the nineteenth century; prior to this only light and heavy woolens were used); the tendency on part of women to wear more comfortable clothing; the invention of highly twisted yarn-forms such as crepes and voiles. There has been made available a greater wealth of color than ever before, due to the invention of new dyestuffs. There are now a greater number of weaves of fabrics from which to select hygienic clothing.

Children's Clothing. As a rule, a child needs less clothing for comfort than an adult. Whether child or adult should wear socks at any time is a question of individual preference and has nothing to do with health. Children in tuberculosis sanitariums where the sun-bath treatment is used often play in the snow with no clothing on except breechcloth and shoes. Fabrics that can be easily washed or cleaned, and at the same time are soft and thin, are adapted to small children.

Shoes. Shoes originated as a protection. Primitive man in his struggle for existence had to invent crudely, as he learned the process of living, articles which aided him in his contest with nature.

The first stone bruise, as a result of a contact with a sharp pebble, probably resulted in the first pair of shoes — fashioned rudely from the pelt of an animal and held together securely by a tough vine or thongs or uneven strands of skin.

Soon this protection seemed insufficient. Sandals fashioned of wood proved a greater protection, but were ugly and unwieldy and made locomotion difficult.

Whereupon man, returning to leather, fashioned a more perfect article, conforming more closely to the lines of the foot and held together by a pliable leather sole of several thicknesses.

THE PARTS OF THE SHOE

The foot covering of the early tribes and nations was associated more or less with a certain mysterious power for good and evil. With this idea in mind, it is only natural for us to find all kinds of foot coverings in the history of the human race. The sandal was developed artistically by the Greeks. The Romans devised a covering for the entire foot with the exception of the toes. Later, this type was developed into a form of a boot which not only covered the foot but the lower leg as well.

Not until long after the fourteenth century did the shoe begin to lose its crude form and design and develop styles. The first style was the gradual lengthening of the toes. Then the style went to the other extreme until Queen Elizabeth's time, when shoes were as broad as six inches. The shoes were made of velvet and were slashed to show the satin lining.

With styles of shoes came discomfort. Physicians state that Indians, who walk toes in and go for the most part bare-footed,

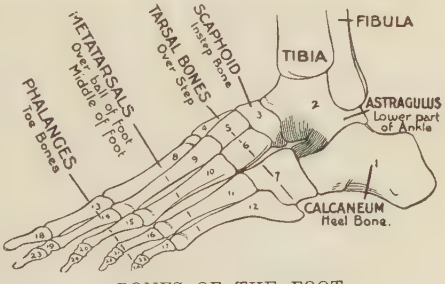
never suffer from fallen arches. Man, as he sought to confine and improve Nature, paid the penalty. A slight lift under the heel became necessary for comfort, and thus evolved, through centuries, the modern, sometimes cruelly towering, high heel.

With artificialities being added to what had been originally designed as a thin protective layer for the sole of the foot, more attention was paid to the appeal to the eye. The needs of woman's vanity had to be reckoned with and met. Shoes became pointed and more beautiful. No matter how cramped the position of the foot, as long as the shoe gave a dainty, trim appearance. Better by far to hurt the foot than one's vanity! The Chinese used to bind his girl-baby's feet in childhood so they would not grow to normal proportions.

But now science has entered into the evolution of footwear and is providing as much of a return to Nature as is possible with a product so artificially beautified. More and more, shoe firms are realizing the importance of proper moulding of shoes. Many fitters now take *X*-ray plates and casts of the foot so that shoes may be exactly moulded. Hence, from the first rough moccasin fashioned by primitive man, shoes have developed into articles of exquisite beauty, as aids to health and comfort.

The Anatomy of the Foot. Few people know much of the anatomy of the foot. Yet it is evident that they ought to know something about it in order to furnish the foot with a proper covering.

The first thing that strikes a person on looking at the human foot is its large proportion of bone. On pressing its top surface and that of its inner side, the amount of flesh will be found to be very small indeed. The same is true of the inner and outer ankle. The extreme back of the ankle has scarcely any flesh covering. The most fleshy portions of the foot are its outer side, the base of the heel, and the ball of the big toe.



BONES OF THE FOOT

The reason for this disposition of flesh is to protect or cover those parts of the foot that support the body by coming in contact with the ground. They act as pads and lessen the concussion. The abundance of flesh on the outer side of the foot is to protect or act as a shield against injury. The inside of the foot is not exposed as much as the outside.

The foot is divided into three parts: the toes, the waist and instep, and the heel and ankle. The largest bone of the foot is the heel bone (called *calcaneum*). It is the bone that projects backward from the principal joint and forms the main portion of the heel. When a person is flat-footed, this bone is thrust farther backward than Nature intended to have it. The connection between it and the tarsal bones is lost.

The top bone of the foot is the *astragalus*, and it forms the main joint upon which the process of walking depends. This bone has a smooth, circular, upper surface that connects it with the main bone of the lower set. It is absolutely necessary that this bone should be in perfect harmony (relation) with the others in order to insure comfort and health. If the arches of the foot are forced out of position, up or down or sidewise, this joint is not permitted to do its work normally.

Rheumatism is a frequent evil of an injured joint. Hence the necessity of absolutely normal action, unhampered by ill-fitting shoes.

The principal arch of the instep is called the *cuneiform* or *tarsal* bone. Many persons are troubled with defective insteps. Misshapen joints at this point, due to shoes that do not fit and consequently disarrange and throw out of position the delicate, natural structure, work great havoc with the comfort of the foot. Nine joints cluster at this point.

The chief characteristics of the foot are its spring and elasticity. While the foot has wonderful powers of resistance and adaptability, it is the shoemaker's duty not to strain it, but to provide for each action.

Weaknesses of the Feet. The most sensitive part or the part that is most susceptible of injury is the big toe. This is due to the fact that the tendency of the foot in walking is to travel toward the toe of the boot, and to press into rather than shun danger. The shoe-

maker provides for this, first, by allowing sufficient length of sole to extend beyond the termination of the toe, and second, by the fit of the upper and the preparation of the sole. In this way, if the toe of the shoe strikes against a hard substance, the big toe will remain untouched.

Seventy-five per cent of people have more or less trouble with their feet. Some of these troubles are caused by the manufacturer putting on the market shoes whose lines look handsome and attractive to the eye, but are lacking in any other good features. Shoes that fit properly should have plenty of room from the large toe joint to the end of the toes, and also should have plenty of tread, especially at this point.

POINTED SHOE

A mere glance at our bare foot will show conclusively that pointed-toe boots are false in design. The toes when off duty touch each other gently. When they are called on to assist us in walking or in supporting our body, they spread out — although not to any great extent. This, then, being the action, no sensible person would attempt to restrain them. Box or puff-toe shoes allow the greatest freedom.

The pointed-toe shoes, which join the vamp to the upper immediately over the big toe joint, exceedingly high heels, and thick-waist shoes are not for the best interests of the foot.

The evils of ill-fitting shoes are corns, bunions, and calluses. *Corns* are mainly due to pressure and friction. When the layers of skin become hardened, they form a corn, which is merely a growth of dead skin that has become hard in the center. This hardened spot acts on the inflamed parts like a foreign body.

The *bunion* is an inflammatory swelling generally to be found on the big toe joint. The chief cause of bunions is known to be the wearing of boots or shoes of insufficient length or to shortening of tendons. The foot, meeting with resistance in front and behind, is robbed of its natural action, the result being that the big toe is forced upward and subjected to continuous friction and pressure. The wearing of narrow-toe boots that prevent the outward expansion of the toe is another cause.

Sizes of Shoes. There are two series of shoe sizes on the market; the smallest size for infants (size No. 1) is, or was originally, four

inches long; each added full size indicates an increase in length of one-third of an inch (sizes 1 to 5). Children's sizes run in two series, 5 to 8, and 8 to 11; then they branch out into youths' and misses'; both running $11\frac{1}{2}$, 12, $12\frac{1}{2}$, 13, $13\frac{1}{2}$ and back again to 1, $1\frac{1}{2}$, 2, etc., in a series of sizes that run up into men's and women's. Boy's shoes run from $2\frac{1}{2}$ to $5\frac{1}{2}$; men's from 6 to 11 in regular runs. Larger sizes usually are made upon special orders. Some few manufacturers make sizes up to 12. Women's sizes run from $2\frac{1}{2}$ to 9. Some manufacturers do not go above size 8. The rate of sizes is sometimes varied by manufacturers of special lines of shoes. A man's No. 8 shoe is nearly eleven inches long. These measurements originated in England and are not now the only ones found. A system of French sizes is often used, which consists of a cipher system of markings to indicate the sizes as well as widths, so that the real size may not be known to the customer.

Types of Feet. All feet are not alike in structure and shape. In infancy the foot is broad at the toes, which press forward in the direction of their length. The heel is small in comparison to the width of the toes, and also short in length, due to the undeveloped bones. But during growth, the thickness above the heel bones disappears, and the heel itself becomes thicker and assumes the beauty of perfection at maturity. This development is due to the growth of bones which should be well exercised and properly cared for during this period.

The adult foot, when properly formed, is straight from heel to toe on the inner side, and is wider across the joints than it is one inch or so farther back. The manner of walking has a considerable bearing on the character and development of the foot.

There are many sorts of feet, which are due to a number of causes, such as habits, climate, occupation, locality, etc. As a general rule we may divide the feet into four classes: Bony feet — those with very little flesh upon them; hard feet — those that have plenty of flesh, but which are almost as hard as a stone; fat feet — plump, with plenty of flesh, but having little shape; spongy feet — those that seem to have no bones in them, usually found in the female sex.

We will suppose that these four different kinds of feet all measure 4 in size and D in width. One would naturally think that the

same size shoe would fit them all, but this is not so. This size shoe will fit only one, and that is the bony foot. The hard feet require a C½ width; the fat feet require a C width, and the sponge feet require a B width.

The same last may, and often will, possess a slight variation in some manner or other. The fitter of feet should know the stock, each pair, and be on intimate terms with the peculiarities of each last and the inside lines of each pair of shoes before attempting to try them upon the feet of the customer.

How Shoe Styles Are Made. If you examine the shoes worn by people in a large city, you will notice the different styles. Shoe styles that were called grotesque a few seasons ago are comparatively usual today, for the new designs in women's footwear which manufacturers are now making are the most varied that have ever been put on the market. Pink and green and blue are among the new colors in materials used.

Some of the styles are more lavish than others. Coronation purple velvet boots look like an extravagant color for footwear, but they, with others of pink, green, and blue — shoes, boots, and pumps — are being made up and offered to buyers.

After the style has been decided upon, it is necessary to work out an exact reproduction. An expert model maker, called a last maker, produces a last — a wooden model of the shoe. In order to do this, it is necessary to lay out certain plans or specifications for the details of the manufacture of the shoe.

There are certain parts of all feet that have fixed measurements. To illustrate: the length of the shank, that part of the sole of the foot between the heel and ball, in every person's foot is always the same. The part of the foot back of the ball or large toe joint conforms to certain fixed measurements. These definite measurements form a basis by which the last maker originates new styles by shortening, lengthening, widening, or narrowing the space in front of the toes, but always retaining the true and fixed measurements of the back part of the last.

Children's Shoes. As soon as the child begins to walk, care should be taken not to tire him, for the muscles and bones are still weak. Going barefooted, whenever weather conditions permit, is good for the child, and he should walk naturally, toeing straight.

The baby's first shoes should have flat, flexible soles and pliable tops. Those that resemble moccasins are good for the youngster's feet. The lines of the shoes should follow the natural outline of the foot obtained by standing the child on a sheet of paper and tracing around his foot. The shoes should have broad toe-room and should be an inch longer than the tracing.

Stockings should also be from one-half to one inch longer than the foot. Cotton socks, or no stockings at all, are preferred in warm weather, but in cold weather cotton and wool or silk and wool mixtures are good. Great care should be exercised in buying woolen stockings. After being washed, they are shorter. They should always be dried upon forms.

Hygiene of Shoes. To keep the feet and ankles dry and warm is of great importance. The physician tells us that at the joints in our bodies the blood vessels are very near the surface. Therefore if we expose our ankles to extreme cold and dampness, we lower the temperature of the blood at this point. There are three results that one may look for under such circumstances:

1. A loss of energy, therefore inefficiency.
2. Congestion in some of the internal organs.
3. Indigestion.

Leather has been adopted as a desirable material for shoes because it is durable and flexible. It should be borne in mind, however, that it is not ideal as far as cleanliness is concerned. It retains heat and perspiration; therefore the same pair of shoes should not be worn constantly. They do not have an opportunity to become thoroughly aired and dry overnight. It is best to have two pairs of shoes for ordinary wear, and change frequently. Some men and women put their shoes in the window when they take them off, and air them thoroughly before putting them away in the closet.

About the only unhealthy fashion of the present day is the fashionable spike heel — and the harm it may do is at least mitigated by the popularity for sports and daytime wear, of the heelless brogue.

Choice of Shoes. Shoes, like hats and gloves, are important points to consider carefully in selecting our dress. There are different types and styles. Since the shoe is worn not only for dress but for comfort, one should always select a shoe that gives it. If a broad shoe gives greatest comfort, be sure always to select that type in the prevailing styles.

The shoes and hosiery should be a unit of dress in themselves. If they are conspicuous they attract attention to the lower part of the body rather than the face. If they are darker in color than the skirt and stockings, they do not appear conspicuous.

Hosiery. A durable stocking will not wear out readily nor drop a stitch. Lisle, silk, and rayon drop stitches easily. Cotton and wool do not wear out so readily, because of close knitting, heavy yarns, and reinforcements.

The size of the stocking is very important, as it affects its appearance and durability, and the wearer's comfort. Too short a foot will be uncomfortable, and will not wear well, yet there is a tendency to purchase hosiery too short. Too large a foot will have creases and wrinkles, and will cause discomfort. For extremely sensitive persons, there are manufactured right and left hose. Daily changes save strain of wear and protect color. Select standards that will not fade or crock.

Size means the proper length and proper width. There is no hosiery especially made for a narrow foot and a very slender arch. One can determine the size of the stocking from the size of the shoe, although this method is not always reliable, as some people always select a long, narrow shoe.

Size	1	shoe	takes	a	size	8	stocking
"	2	"	"	"	"	$8\frac{1}{2}$	"
"	3	"	"	"	"	9	"
"	4	"	"	"	"	$9\frac{1}{2}$	"
"	5	"	"	"	"	10	"
"	6	"	"	"	"	$10\frac{1}{2}$	"

The question of silk versus cotton is a question of the pocketbook. Cheap silk stockings are not economical if hard wear is to

be given them. Silk hosiery is stronger, more elastic (gives better fit), and has more luster than any other kind. Stockings should be shaped and not cut to form, as in cutting the knitted fabric to the shape the stitches are cut, and this necessarily weakens the fabric.

Woolen stockings are satisfactory with sport clothes but cannot be worn with dress costumes. Flesh-colored lining stockings of fine wool are desirable for cold weather, when silk is worn.

Stockings for style should be selected for color, material, and design.

Hygiene of Hats. Large, heavy hats are uncomfortable because of their weight and because of the difficulty one has in balancing them. Such hats cause nervousness and give an unnatural position to the head. Tight hat-bands affect the circulation and cause discomfort. Logically hats cannot be much trimmed while hair is short.

Corsets. In order to give support and shape to the waist, a corset is used. If a person has strong muscles and little or no superfluous flesh about the waist, there is no need of a corset for support. But since styles (shape of the figure) change, it is necessary to have a corset device to assist in obtaining the current figure — curves at the waistline, high bust, wasp-like waist, etc. The corset has been known by many names and used by many people, but always for a single purpose, the reduction of the waist to emphasize more fully the beautiful lines of the hips and bust. It has been called successively corsets, bodice, stomacher, stays, corset, and lastly girdle.

The style or design of corsets is governed by the style tendency of the time. The designer of corsets today follows the outline of the natural figure, giving support where it will aid and not impair good health.

Corsets, like all other kinds of underclothing, should be soft and pliable, so as to give complete freedom and ease to the body in all positions — standing or sitting. Stiffening agents may be used for stout, but little for slender forms.

Various materials are used for corsets or similar pieces of clothing, according to the cost, demand, durability, and season of the year. The test of a desirable corset is the correctness of the fit.

If corsets are improperly fitted (wrong size) or placed on the person incorrectly, they will soon lose their shape. Since the purpose of a corset is to hold its shape, it is necessary to have a straight woven fabric that is both strong and stiff. The weight of the fabric is governed by the season in which it is worn. The principal fabrics for summer are corset batiste, turcot, light-weight brocades, and elastic webbing: for winter wear, coutil, heavy brocade, and sateens. Sometimes it is necessary for large women to wear the heavier fabrics, such as coutil and heavy brocade, in the summer because they need the support.

The thick, padded, or close-fitting apparel worn by the women of generations ago restrained the circulation, hampered freedom of movement, and impeded normal exercise of muscles. Certain English physicians have reported the disappearance of anemia since the vogue of more sensible feminine clothing.

Everyone who can remember the styles of even twenty-five years ago must agree as to the superiority of today's fashions in their effect on physical comfort and well-being. Corsets were abominably uncomfortable, and had a debilitating effect upon the muscles and a deforming effect upon the internal organs.

Support of Clothing. Since clothing is not one piece but is made up of numerous parts, the problem of how these parts are to be supported is a serious one. There are parts of the body, like the shoulder, composed of bony structure. There are other parts, like the waistline or abdomen, that consist of soft tissue covering the bones and enclosing important organs. There are other parts, like the knee and ankle, that consist of the bony structure covered with muscles and tissue. Clothing should be supported from the part or parts of the body that can bear the weight best.

The following points of hygiene should be considered in connection with clothing:

(*a*) Short skirts mean not only an inviting freedom for exer-

cise but a minimum of accidents. (*b*) Collarless blouses and dresses help the skin of the wearer to become hardened and so improve the resistance to colds and other affections of the throat and chest. (*c*) From the standpoint of health and comfort, abbreviated skirts and socks are better than long stockings that have to be held up by hose supports hanging from shoulders or hips. Physicians say that the round garter is also bad. The sock should have a firm knitted cuff at the top to keep it in place above the calf of the leg.

QUESTIONS

1. State the importance of clothing for health.
2. (*a*) State the source of energy or strength in the body. (*b*) Describe different types of foods.
3. (*a*) State the source of heat of the body. (*b*) How does the heat escape from the body?
4. What is the ideal clothing from the point of view of health?
5. (*a*) What is meant by absorption? (*b*) Perspiration?
6. State the absorbing power of perspiration of the different fabrics.
7. (*a*) What is meant by ventilation of the body? (*b*) Compare the structure and composition of the fabrics as to ventilation.
8. Compare (*a*) wool, (*b*) cotton, (*c*) silk, and (*d*) linen for underwear.
9. Why is it necessary for the body to have freedom and proper warmth?
10. (*a*) State the types of clothing needed to protect the body. (*b*) Name the characteristics of each.
11. (*a*) What are the characteristics of poor underwear? (*b*) Name the different types of underwear fabrics.
12. Name the characteristics of protective clothing, including furs.
13. State the artistic and style value of fur coats.
14. Name and describe the different kinds of furs.
15. How are furs matched?
16. Describe imitation furs.
17. Describe use of (*a*) muskrat, (*b*) moleskin, (*c*) beaver.
18. (*a*) Describe cloth furs. (*b*) State the artistic and health values.
19. State the hygiene of clothing and the different points of view during the past generation.
20. How has the new theory of hygiene influenced view of structure of clothing?

21. State the characteristics of clothing for business.
22. What are the characteristics of home costumes or clothing?
23. Describe the characteristics of children's clothing.
24. Describe the importance of the clothing and care for the feet.
25. State the history of footwear.
26. Describe the style of shoes.
27. Explain the anatomy of the feet.
28. (*a*) Describe some of the weaknesses of the feet. (*b*) How are they produced and how may they be improved?
29. Describe the sizes of shoes.
30. Name and describe different types of feet.
31. How are shoe styles made?
32. Name the different parts of shoes.
33. Describe the importance of children's shoes.
34. Describe the hygiene of shoes and shoe clothing.
35. State the artistic and style importance of shoes.
36. Explain the hygiene of hats.
37. (*a*) What is the purpose of corsets? (*b*) State the artistic and style value and weaknesses of corsets.
38. State the most effective methods of supporting clothing.

CHAPTER XI

CARE OF CLOTHING

Importance. Clothing will appear to best advantage and wear longest when it is properly cared for. Since one purchases clothing for a definite purpose, it follows that the wearing apparel should be carefully selected to meet the requirements. After the proper piece of clothing has been selected, it should be carefully cared for in order to conserve and prolong the life of the garment. Thus we see that the care of clothing should begin with the selection.

Prudent selection of clothing is as important as efficient manufacture. The new theory of business is to protect the consumer. Everyone should seek to be an intelligent consumer of clothing or textiles and know how to choose, purchase, and conserve the clothing she buys.

How to Select. Before we purchase textiles, or, in fact, any wearing apparel, we ought to know definitely what we want. When we know the use, we can decide whether we want an expensive or cheap fabric. While on most occasions it pays to purchase durable fabrics, there are times, due to fancies of fashions, when it does not pay to purchase an enduring fabric — then we ought to purchase the cheap or inexpensive article. We can always purchase economically by selecting conservative clothing.

The following points will illustrate the above paragraphs by showing how a business woman might select her wardrobe and make her purchases economically to replenish it:

I. The first step is to make a list of the essential items in her present wardrobe, noting the use, condition, and date of purchase of each item. Preferring quality to quantity, the business woman reduces her list to the real necessities: one coat, two office dresses,

one afternoon dress, two hats, two pairs of gloves, six pairs of hose, two pairs of shoes, and one handbag.

II. She chooses her business dresses first. It might be well to allow herself never less than two (both tailored), for there must always be one to wear while the other is at the cleaner's. One of these may be of wool jersey and the other of tweed similar in type. Since one hat must serve both dresses, she chooses them in the same color or in two shades of the same hue.

III. Often it is impractical to change apparel before going out to dinner or the theater, and this means that the business woman must include in her wardrobe a " dress up " frock that will not look out of place behind her desk.

IV. The coat is the last garment to be chosen, because it is important that it should blend well with all her frocks. Black sets off every other color charmingly, and is always in good form.

V. Stockings should be selected with great care. The texture should be examined to ascertain the wearing qualities. A woman will consider the length, because she knows there is a difference in lengths even in the same size number, and if the stockings are too short there will be undue strain at the knee and there will soon be a break there. If they are too long, they will not fit smoothly, and will wrinkle at the ankles, which is not becoming. To be becoming, stockings must fit closely at the ankle and be smooth throughout the length. To attain this trimness they must fit in length as well as in foot size, and must be sufficiently elastic to yield with the movements of the wearer.

If the color contrast is too strong, stockings become conspicuous and emphasize physical defects. For slenderizing effect, select the pointed heels and choose gray tones rather than the beige. When fashion decrees that nearly the entire stocking must be seen, the same care should be given to the selection of these as we give to our hats.

VI. In the purchase of the costume note the fabrics, etc., that compose it and see if they conform to the following:

Clothing for formal occasions should be of materials that are as high grade as one's income will permit.

Everyday costumes should be made of fabrics or materials that are durable, easily cleaned, and not too expensive.

Sport costumes should be composed of fabrics that are substantial or durable, light in weight, and not easily creased.

As a rule, buying garments of good quality, well shaped, and well fitted may mean a larger initial expense, but it means that they will wear better than fabrics of inferior quality and ill-fitting garments that strain and pull; and they will not require cleaning and pressing so often. Make a personal study of yourself with different dress accessories in order to determine the correct ones to wear.

Since it is the purpose of clothing to make one attractive, it follows that a costume or garment should be examined to see if it is actually made for the person wearing it.

Of course one must remember that the fit of a costume often depends on style — sometimes a pinched or tight effect, while at other times a loose flowing costume, is in style. Hence we must always bear in mind the style tendency as well as the person wearing the costume.

The examination should proceed as follows:

Blouse or waist — Does the waist, blouse, or coat sit properly on the person so that the collar fits well on the neck and the shoulder seams rest at the crest of the shoulder. Notice whether the costume fastens without showing the fastening agents.

Sleeves should be set in to allow for seams. The edges of seams should contain enough material to prevent their pulling out, and all edges must be pinked, picoted, or overcast.

Buttonholes should be fully stitched and finished. On more expensive garments all this stitching is, of course, hand work, and in every garment self-colored thread must be used.

Experience shows that poor workmanship cannot be covered up with any superficial veneer of trimmings or novelty effects. The garment must have qualities put into it with shears and needle and not defects covered up by fancy trimmings and the use of a pressing iron.

In purchasing ready-made apparel, the article should be examined very carefully as to the following points:

While the costume is suspended from a hanger before the natural light, notice the back and front linings for flaws in the material — drawn threads, cuts, soiled spots, etc. The hems of dresses should be basted, not stitched, so that changes in length may be made easily.

Since each person has an individuality of her own which is more or less original and is governed by her taste, it is necessary for each one to reflect this quality in her dress in order to give an added style value (often called *chic*) of distinction. How can one determine this added style value? Only by experimenting in arranging her clothing, *i.e.*, by having finishing touches that no one else has. You can only obtain this by looking in the glass and experimenting until you have found or discovered the exact touch; as, for example, by arranging a scarf at your throat in some new way. Take beads and twist them in some odd fashion. Get a piece of chiffon and make a bow of it for your shoulder, your hip, or even the edge of your skirt.

The Buying of Clothes

There are three ways of purchasing clothes: (*a*) made to order, (*b*) made at home, or (*c*) the ready-to-wear garment. Here are some of the advantages and disadvantages of these methods:

Made to Order

Advantages	*Disadvantages*
Good materials can be used, skilled labor employed, and selected models chosen; therefore, individuality.	Much more expensive; time spent in trying on; results not always pleasing, perhaps because we can not visualize the finished product.

Made at Home

Much cheaper, especially if we can make them ourselves, and therefore can spend more money on the material and purchase better quality; usually put together better. It is surprising how much can be done at odd moments.	Takes a great deal of time. Perhaps not always stylish. Those busy with other interests and outside work should not be burdened unless they use it as pick-up work.

Ready-to-Wear

Saves time. Today these garments are well cut and well made. We have the advantages of trying on the finished product.	Many models alike. Materials may be inferior. The purchaser must be a good judge of fabrics and prices to buy well.

A certain number of articles must be purchased ready made, such as hosiery, knitted underwear, shoes, slippers, corsets, overshoes, umbrellas, gloves, handkerchiefs, and handbags. In order to be a wise purchaser we must know materials, and should know the points in good manufacturing.

A word about bargains:

A legitimate bargain:

White sales in January.

Broken lots, odd sizes, soiled garments that will wash or clean easily, mill-ends, remnants, samples, novelties.

Not a bargain:

Rubber articles that have been kept a long time.

Silk sales, especially if the silk is weighted.

Buying something that you do not need.

Buying more than you can use, because the sale says, " Three for a quarter," when you know you can use only one or possibly two, or have not storage room for that amount.

Conservative Dress. If we glance over the fashion magazines, we shall find that the shape or general outline which we call silhouette will change a little from season to season. On the other hand, we shall find that the details change greatly, and it is in this respect that the clothes of one season may look queer or old-fashioned or out of style in the new season.

Since this is true, it follows that if we expect to purchase a costume that is supposed to last several seasons we must select conservative styles, that is, styles that will not change very much for two or three years.

A good serviceable costume will look well for three years, provided it is not extreme in style — that is, not too long, too short,

too tight, or too loose. Variety may be secured by change of collar, tie, beads, etc. The costume should follow the tendencies of the time, but not the novelties.

Fabrics. We have considered the question of the purchase of the costume — line, shape, color, etc. Since the wearing quality depends to a large degree on the fabric as well as the stitching, linings, and trimmings, it follows that we should know how to judge the wearing qualities of fabrics. These qualities include durability, quality, and suitability. To illustrate:

1. Durability means the property of lasting or enduring, that is, wearing a long time without breaking or losing its characteristics.
2. Suitability means adapted for a definite use.
3. Quality means the nature of the material and workmanship used in making. There are on the market various grades of quality, some excellent, fair, or poor.

There is always a tendency to substitute a poor or medium quality for an excellent quality by offering inferior fabrics or fabrics adulterated with cheaper materials. To illustrate: There are many ways of treating fibers to change their appearance; that is, a cheaper fiber may be made to look like one more expensive, or methods of finishing may be used so that they appear to be more durable than they are, but in reality they will be less strong.

Since cotton is the cheapest fiber, it is probably the only fiber that is not adulterated to lessen its cost, although a cheaper fiber, (one of shorter length) may be used.

Weave. Since the structure of a fabric determines its strength and shape, it is very important to know the structure or weave and whether it is the best fabric for a particular use. Cloth according to structure may be classed as (*a*) *woven* — serge; (*b*) *knitted* — tricolette; (*c*) *plaited* — lace; (*d*) *felted* — piece of felting.

Woven. If the fabric is woven, the exact method of interlacing may be plain weave, twills and sateens of different harnesses, Jacquard, lappet, gauze or leno, double cloth, pile, etc. Each weave is used for a definite purpose. To illustrate: The plain weave

is the strongest weave to resist tensile strength, the sateen and twill to resist friction.

Fabrics with low construction and twist, that is, loosely woven, with the yarn loosely twisted, will lose their shape very quickly, but nevertheless are valuable for women's wear as their softness allows them to fall into folds — to drape easily. High construction and strong twists are necessary for firm fabrics to give longest wear. Loosely woven fabrics also are likely to break in washing or when subject to strain, due to the friction which pushes the threads aside and produces a thin section in the fabric. This is particularly true in the satin weaves with long floats.

Weaving imperfections, such as loose threads or knots, cause considerable trouble in laundering. Sometimes in weaving a thread breaks, and the ends must be tied together. When it is finished, the knot may be cut, but the loose thread remains. These spots become weak in the fabric and account for the wearing of the holes which appear, particularly in linens after they have been washed two or three times.

A loosely woven fabric with a plain warp and filling yarn will soon become soiled, but it is easily cleaned. On the other hand, a closely woven fabric is not so easily soiled, but retains the dirt more tenaciously.

The common defects in the structure of cloth are:

1. Missing thread in either the warp or filling, which is inserted in the case of woolens and worsteds after weaving.

2. Broken threads that have been tied together in a knot, which forms a rough place or bump, and are broken off in the washing, causing a tear.

3. Uneven yarn — the larger yarn weakens the smaller yarn by friction until the threads break and form a hole.

4. In sateen weave there are many " floaters " which are apt to catch and break or slip out of place.

5. Pins and fastening agents in clothes tend to make small holes which gradually increase in size.

Since a defect like a tear in wearing apparel will decrease its strength, all tears or breaks and fastening agents should be repaired as soon as possible.

The fact that a woven fabric is rigid and self-supporting is due to

the tension or tightness of the warp threads during the process of weaving, and this will not allow the fabric to stretch after weaving. The woven cloth is cut lengthwise so as to hang in the direction of the warp and thereby hold the weight of the fabric, while the movements of the body cause the filling threads to stand the strain. Since the filling threads are usually weaker than the warp threads, we find the filling threads breaking first.

Knitted. For stockings, bathing suits, underwear, etc., there is a demand for a fabric that is close fitting, elastic, light in weight, etc. The knitted fabrics have such characteristics. The woven cloth is inclined to be rigid, firm, lacking elasticity, etc. Compare the old-time bathing suit of taffeta, which is woven, to the splendid suits of today.

In some forms of underwear, the honeycomb or cell weaving is adopted, being designed to absorb perspiration quickly; such fabrics require very careful washing.

Wool Fabrics. Wool materials are cheapened in two ways: by the use of cotton, or of remanufactured wool, often called *shoddy*.

A cloth that contains part cotton in place of all wool may be readily tested by burning the single-twisted separate threads of both warp and filling. The cotton burns readily with little odor, and leaves scarcely any ash; wool burns slowly, leaves much ash, and has the characteristic odor of burned hair or feathers.

Loaded Fabrics. Cotton fabrics of poor quality (low construction — small number of warp and filling threads to the inch) are made to look like better quality cloth by means of special finishing processes, sizing, and pressing. This is done by adding to the cloth a sizing mixture made of starch, gum, glue, and china clay, filling the spaces in a loosely-woven fabric and then pressing it to make it appear more firm. Washing removes the sizing and the cloth becomes coarse and cheap looking.

Cotton materials may be tested for much sizing by washing, or by rubbing the dry cloth between the fingers, or by tearing the cloth and noticing whether much dry powder falls out, or by hold-

ing the cloth to the light and noting if there is any sizing between the threads. If only a normal amount of sizing has been used, no harm is done, because in washing the sizing comes out and the threads swell in ironing, the swollen threads filling the openings. But if a soluble mucilage or sticky material is used, it may withstand several washings before it is removed.

Sizing acts as a protective agency and prevents dirt and stains from penetrating the fibers. On the other hand, it is mostly absorbent and will turn yellow in the action of the atmosphere. There are two kinds of starching, — light and heavy. The light starching is used for table linen, as it enables stains to be removed much more quickly — the tannin in the tea and coffee stains being neutralized by the starch and coloring matter absorbed by it. High and moderate finishes tend to protect fabrics from becoming soiled.

Strain, Friction, and Wear. Clothing is subjected to the following forces while in use and should have sufficient strength (elasticity) to resist them:

1. When cloth or clothing is pulled in the direction of its length, as when we pull the sleeve of a coat, it should have tensile (pulling) strength to resist this force.

2. Clothing is often packed very tightly and so is subject to a force; it should have sufficient compression (crushing) strength to withstand this force.

When a strain of any kind acts on clothing it may be considered a force and may be measured in pounds. In fact, the strength of a fabric is determined in pounds on a testing machine which tears the cloth and registers the number of pounds of pull necessary to tear it.

When a strain or force acts on clothing it produces a change which may be small and cause only a wrinkle, while in other cases it may break the fabric. The different parts of the clothing possess elasticity (the power to return to its original position when stretched and then released) which varies with fibers, twist of yarn, and weave structure. When the elasticity of the clothing is exceeded, the fabric breaks.

Our clothing is made of cloth, in pieces fastened by stitching thread, and while it covers the body, it is subject to strain due to (*a*) the weight of the cloth itself, (*b*) the movements of the body — as in sitting — which stretches the cloth, (*c*) friction or abrasion,

when the lining of the coat rubs against the other parts, or the seat rubs against the cloth when sitting.

Not all articles of clothing have the same strength. Sometimes different parts of the same fabric have different strengths. The strength of the clothing depends upon the nature of the cloth (whether cotton, wool, silk, linen, rayon), length of the fiber, twist and ply of the yarn, and the weave structure as well as the stitching.

Our clothing is liable, in addition, to (*a*) strains which may cause the cloth, etc., to break, (*b*) action of perspiration, stains, and washing fluids which weaken the fabric more or less unless great care is exercised, (*c*) the effects of moths, moulds, or insects which destroy part of the clothing.

Trade Names. One cannot depend on trade names in identifying fabrics. To illustrate: A firm may place on the market a fabric with a special name. If it is popular, other firms will attempt to compete and duplicate. Different names for the same or nearly the same fabric will be added to the market list. Hence trade names cause confusion and cannot be used in identifying fabrics. The only way to identify them is by the composition, structure, and finish.

Manufacturers describe a fabric according to weave and composition or finish and composition. The consumer, on the other hand, is very likely to think of a fabric as he sees or feels it, according to composition and finish. The composition, color, and feel of a fabric may be expressed in such terms as describe crepe de chine, which is soft, very thin, sheer, translucent, and is valuable for lingerie.

Many other people, such as tailors, are very likely to describe a fabric in terms of its use. A serge is used to make suits, therefore it is called a *suiting*. A serge for ladies' suiting is made of softer yarn than a serge for men's suiting and is called a *skirting* or *women's suiting*. We should be familiar with the different methods of describing fabrics.

Points in Buying. 1. Is the fabric or garment guaranteed? That is, does the manufacturer stand back of the article in any way?

2. Has the article of clothing a permanent or special finish that makes it worth more than one that has a temporary finish?

3. Has handwork been used in the construction or manufacture?

4. Are there any raw materials used in the make-up that are of superior or unusual quality?

5. Fabrics differ in their structure (weave) and finish, which has a great deal to do with the ease of cutting the material and making it into a costume. To illustrate: Some fabrics with loose weave (minimum threads to the inch ravel) fray easily, like mohair, pongee, soft serges, and voiles; while the soft fabrics composed of left- and right-twisted threads with a crinkled effect, like georgette crepe, chiffon velvet, mulle, and crepe de chine, slip easily and are hard to handle in the cutting, due to the crinkled effects.

6. Fabrics that are heavily sized, such as buckram, etc., are difficult to sew by hand because the sizing makes it hard to push the needles through.

7. The best fabrics to sew are those that crease easily (stiff, due to close weaving), such as ginghams, taffeta, etc.

8. Fabrics with pronounced woven patterns, such as fine stripes and pronounced checks (shepherd's plaid), cause annoyance to the eye in sewing.

9. A loosely woven fabric gives only fair service and does not hold its shape. It also tends to shrink.

10. Pile fabrics do not give good service because pile wears off or presses down and becomes shabby. Mohair pile is rather stiff and unattractive.

11. Brocades are not suitable for stout women, as the prominent designs call attention to the large figure.

12. Stiff and weighty fabrics are not used when styles are for draping and clinging.

13. Variations in the grades of crepe fabrics are due to the size of yarns used. The cheaper grades are made of single, the better of two-thread or ply, and the best of three-thread or ply.

14. In the design of garments of a complex character, the materials should be rather simple. If the garment is cut on

simple lines, then figured materials may be used. Fabrics that were very stylish with certain costumes of one season should not be used for another season's costumes.

15. Heavy materials for costumes should have bold designs and trimmings. On the other hand, finer fabrics should have fine trimmings.

Cleaning Clothing. After the wearing apparel has been selected, we should care for the costume according to its composition, cut, and use. All clothing should be frequently aired and cleaned, as dust, grease, vapors, liquids, and perspiration come in contact with it.

Odors are absorbed by the fabrics of the costumes, and each piece of clothing should be exposed to air as frequently as possible. The clothing should be placed in such a position as to allow a free circulation of air through all parts of it. It is the daily care that counts. When a garment is removed, do not hang it in the closet at once. Give it a chance to air well, after shaking it to remove wrinkles.

Few people realize the harmful effects of dirt or dust on clothing. Dirt often consists of fine particles of sand, which will cut the fibers and thus weaken the fabric. Therefore, garments should be frequently brushed with a good whisk broom. If the fabric has lint or is inclined to be " nappy," a dampened whisk broom will remove the dust. Fuzzy or napped fabrics take the dust more easily than hard-surface fabrics. If the garment is of silk, use a very soft brush or soft cloth. A piece of velvet is an ideal medium for removing dust from silk.

Remove all spots on clothing at once before dirt can be deposited on them.

Silk and woolen garments frequently wrinkle when packed. These wrinkles may be removed by hanging the garment either out of doors on a damp day or in a room filled with steam. To appear at one's best we should keep garments well pressed at all times.

Stockings should be changed at least once a day. This is a

very simple matter, but one of the measures of neatness and economy that is often neglected. To rinse out the soiled stockings before retiring takes very little time or effort.

The hat and dress should be carefully brushed as soon as they are removed, and put away where they can be found, fresh and ready to wear in a moment of haste. There may be a seam that shows signs of weakness or a button or snap that seems unsteady as a garment is being brushed. That is the time to fix it.

Wrinkles. The coat is the outer garment for the street, and its most important style effects are: (1) shape, (2) smoothness of fabric, (3) evenness of pile or nap effect. The constant use of properly-shaped coat-hangers will do much to retain the shape. The same is true of trousers and dresses. When not in use they should be suspended from hangers.

There is a tendency for a man to place his hands in his pockets when walking, and also to carry bundles under the arm of the overcoat. Both practices are bad because hands in the pockets will strain the fabric and bundles ruin the shape of the coat. Carrying parcels in the pockets will do the same. When carrying the under-arm bag, books, or parcels, they should be carried under each arm alternately so as to distribute the wear.

If a dress becomes wet through rain, remove it as soon as possible, and after steaming it should not be worn again until thoroughly dry; otherwise the dress will become badly wrinkled and lose its shape.

Wrinkles may be removed from dresses of crepe, velvet, or soft woolen fabrics, by allowing them to hang in a steam-filled room for thirty minutes or longer. Do not allow crepes or woolens to become so damp that they will shrink.

Since most materials used for clothing become soiled and stained, it is necessary that one be able to clean them. The processes for making them look like new are called washing and ironing (sometimes called laundering), dry cleaning, and pressing.

Dress protectors under the arms and across the back are

necessary to check the ravages of perspiration. Sponging the lining of a dress with cleansing fluid, occasionally, will keep it from becoming soiled.

Before explaining the process of cleaning clothing it may be necessary to explain the action of chemicals and solvents (liquids that dissolve substances) so that the steps in the laundry and dry cleaning operations may be perfectly clear. The principal substances used are (*a*) water, (*b*) soap, (*c*) acids, and (*d*) alkalis. Then again, it is necessary for us to know the characteristics of the cloth and the action of different processes, such as dry cleaning, washing, etc., on the fabric. From a technical point of view these characteristics may be classified as (*a*) physical, (*b*) chemical, and (*c*) biological. The physical changes are those that concern the appearance, etc., of the cloth. The chemical characteristics are those that concern the reaction of the fabrics to soaps, acids, and alkalis. The biological characteristics are those that concern the action of plants, germs (molds), insects, and moths on the cloth. Some fabrics are absorbent, some are unaffected by heat and moisture, others swell, shrink, or harden when exposed to heat.

Action of Water. Clothing and the fabrics from which clothing is made constantly come in contact with water and substances that may frequently cause damage. We should know the action and characteristics of water and the other substances in order to preserve clothing from serious harm.

Water is so common that we think of it as harmless. There are two kinds of water — soft and hard. Soft water is rain water and is found in most water systems. The water found in wells often contains lime and magnesium compounds dissolved from the stones in the earth and is called hard water. Soft water is harmless, but hard water may injure certain fabrics. Soft water can be told from hard water by attempting to create suds by the action of soap. Suds are readily formed in soft but not in hard water.

For laundry work, the softer the water the more desirable it is, not only because it is a better solvent, but also because it more

readily forms suds with soap. Water may be softened temporarily by boiling, or by the addition of washing soda. One pound of soda should be completely dissolved in a quart of water and two tablespoons of this solution used for each gallon of moderately hard water. Clothes should never be put into water in which there is undissolved soda, for the soda will make holes in them.

Borax and ammonia are more expensive agents for softening water. Borax is only mildly alkaline, but in addition to softening water it tends to whiten clothes. It may be used with colored clothes and woolens, when neither washing soda nor lye should be used, and it can also be used in rinsing water. Ammonia is volatile and evaporates readily, and is likely to be less effective in long soaking or boiling processes, but, like borax, may be used in rinsing water.

Besides having water soft, it must be clean. If the water is muddy, straining through heavy material will help to clear it. If the water contains iron, as is often the case, it is a great handicap in laundry work.

In order to understand the cause of decay of clothing in laundering it is necessary to know the different types of substances found in the water used.

Solution. When a substance like salt dissolves in water, the salt is said to be in solution, and the water is called the solvent of the salt. Not all substances, are dissolved by water; for example, fats and oils will not dissolve in water, but will dissolve in alcohol or ether; alcohol and ether are said to be solvents of a fat.

When a solvent like water has dissolved all that it can hold, it is said to be saturated, or a concentrated or strong solution. The addition of more water to the solvent weakens or dilutes the solution. Strong solutions are more active and destructive than weak solutions. A strong solution of mineral acid will destroy wool, but a weak solution will not. Hence, it is always important to know the strength of the solution one is using.

Solvents frequently evaporate; that is, the liquid dissolving the substance disappears as a vapor at ordinary temperature. The substance does not disappear, but simply the solvent. Hence a weak (often called dilute) solution of acid on a fabric or costume, gradually becomes stronger, due to the evaporation of the solvent.

Kinds of Soap. When a strong alkali, like potash, is mixed with some fats or oils, a substance called a *soap* is formed. This substance is used in washing, etc. There are many kinds of soap — laundry soap, toilet soap, neutral soap, etc.

Laundry soap has an excess of alkali in it, hence it is injurious to use laundry soap on the animal fibers — wool and silk. It is not harmful to cotton and linen.

Neutral soap does not contain any free alkali, hence may be used on wool and silk.

Look at the soap used in laundering and notice that it is either yellow or white, the yellow color being generally due to the presence of rosin. A little rosin helps in producing suds, but an excess, such as is likely to be found in very dark brown soaps, is objectionable because it serves no useful purpose in laundering and forms a sticky scum which may adhere to the clothes. Much rosin can be easily detected, for it gives the soap a pungent odor and a sticky quality.

Soaps may be classed as strong, medium, or mild. A strong soap will have a marked effect on the hands, causing them to shrivel and have the appearance known as "washerwoman's hands." It will also cause a cracking of skin on the palm, called "washerwoman's itch." It has a biting taste when touched with the tongue. Strong soaps usually contain a decided excess of soda or other alkaline salt but very rarely an excess of lye. While soaps of this class may not harm white cottons and linens, they cannot be used safely with silk, wool, or colored fabrics. Medium soaps contain a smaller excess of soda or other alkaline salt, and very rarely a slight excess of lye.

A mild soap contains no free soda or free lye, and is the best for general purposes if only one kind is used in the laundry. If a stronger effect is desired, washing soda may be added to the water instead of using a stronger soap. If soda is used, clothes must not be boiled with it, for heat intensifies its action. Even a dilute solution may shrink and discolor wool, may fade colored fabrics, and will yellow white silk.

Dirt is removed more quickly and with less danger to silk, wool, and all colored and delicate fabrics if the soap is well dissolved in the water rather than rubbed on. Chipped or flaked soaps dissolve easily in hot water without special heating and are convenient for use in the boiler, the washing machine, or for occasional fine laundering. Cake soap can be rubbed into chips on a household grater, or, if very dry, put through a food chopper.

Commercial Laundry. In cities clothes are sent to commercial laundries, where they may be given one of three classes of service: " rough dry," " wet wash," and " finished work."

Usually all clothing is washed by machinery; as a rule, only special laundries accept pieces to be washed by hand. In some laundries all the ironing also is done by machines especially constructed for the garments which they are to iron. This, of course, makes the work much cheaper. Usually the " flat work " is machine-ironed, and if the quantity warrants, this is rated by the dozen at lower cost than for clothes that are priced by the piece. Most so-called " hand " laundries send out the washing to be done by power machinery and merely do the ironing themselves.

Sending clothes to " rough-dry " laundries means that all the work of washing is taken out of the house, since the clothes are returned after drying. Commercial laundries can do the washing at little cost, but the clothes are likely to be wrinkled and in poor shape for ironing.

" Wet-wash " work is still cheaper, because the clothes are not dried but have as much water as possible extracted by wringing in a centrifugal machine. When returned they must be dried before ironing.

The first operation in washing clothes is soaking them in water.

Soaking. Soaking clothes overnight or even for a shorter time is a valuable operation because it loosens dirt, saves time, and lessens wear. Clothes may be soaked by covering them with cold or luke-

warm water, or by wetting, soaping, rolling, and putting them into a small amount of water. Putting very dirty clothes to soak with cleaner ones may add greatly to the labor of washing the latter. If the water is hard, soaking of any kind is unsatisfactory because of the scum that settles on the clothes. Soap will help to prevent the scum from forming.

Washing. The purpose of the washing operation is to force soapy water through the fabric so as to dissolve or remove the dirt. Since the solvent or dissolving action of hot water is greater than cold water, the clothes are washed in clean wash water as hot as the hands can bear, with enough soap added to produce a lasting suds. The soapy water is forced through the fabric. Whenever the water becomes dirty, it should be replaced by clean water. If the clothes are washed by hand, it is better to turn them during the process and wash from both sides. Special attention should be given to hems and other parts that are much soiled.

The rubbing on a washboard should be gentle. The aim is to force water through the fabric; therefore soiled places should not be rubbed when they are more or less dry, but should be kept wet by frequent dipping, after each rub, if possible. A small brush will be a great help in washing such heavy garments as corsets and overalls.

Notice the washing powders used at home and see how they act in washing. Most washing powders are a mixture of soap and washing soda, although some contain even stronger chemicals. This will explain why clothes fade, why silks turn yellow, and why woolens " harden " when too much washing powder is used.

Boiling. One purpose of boiling is to sterilize the clothes by sufficient heat to kill the germs. While boiling helps in cleaning soiled clothes, it is not the sole purpose, for with good outdoor drying facilities, boiling may be omitted. Only white cottons and linens may be boiled. Most clothes need only about five minutes actual boiling; too long boiling should be avoided because it tends to yellow the cloth.

Kerosene, turpentine, or shaved paraffin to act as a solvent may be added if the clothes are very dirty or yellowed. It may be a good plan to boil every week the clothes that get very dirty, and the others only every three or four weeks.

Rinsing. After boiling, or washing and boiling, clothes should be thoroughly rinsed in hot, clear water. If not thoroughly rinsed, the clothes may become grayish, or the soap left in them may act on the bluing to form rust spots, or the soap and starch, if the latter is not pure, may yellow them. Moreover, traces of soap or washing soda may weaken the fiber of the material when heated in ironing.

Proper washing, particularly rinsing, is absolutely necessary, and important for the preservation of fabrics. Few people realize the importance of this operation.

Bleaching. Clothes that are very yellow from long standing or from poor washing and drying may require bleaching. They may be soaked for several hours in water containing borax in the proportion of one-fourth cup to one gallon of water; if this is not effective, the clothes should be wrung loosely and spread on the grass to dry in the sun, or in cold weather allowed to freeze. Then the garments should be washed throughly in plenty of soap and water, or in ammonia water. Only cottons and linens may be bleached with Javelle water, as it dissolves wool, turns silk yellow, and weakens the fibers of cottons and linens if they are boiled in it.

Javelle water may be purchased or made. It is simply a solution of washing soda and bleaching powder (chloride of lime).

Bluing. Many present-day housewives have abandoned the custom of bluing the clothes when washing. Bluing, however, is a great aid to good laundering, for it keeps the clothes from turning yellow, as they have a tendency to do with age or through the use of inferior soaps.

There is a vast difference in kinds of bluing. Some have an acid base and are quite apt to injure the fabric if incorrectly used.

Bluing should not be used in soapy water, and the blue rinsing water should be thoroughly splashed with the hands to make sure the bluing is well and evenly distributed.

A large quantity of water should be used for bluing, and the clothes should be put in singly and loosely to allow every part of the garment to be exposed to the bluing water. Shake the clothes out well after bluing.

Hanging and Drying. Wet clothes are dried by exposure out of doors in the sun. In addition, the air sweetens and bleaches them. Garments should be shaken, turned wrong side out if this has not

been done before, hung on the straight of the goods, and fastened by the bands when possible. Clothes that have been properly hung are much more easily ironed than those that have been stretched out of shape by careless hanging. Starched clothes should be brought indoors as soon as dry, because with long hanging they lose their stiffness.

Starching Clothes. When a fabric is washed, particularly cotton (fancies), it is desirable to know how to launder it so that after ironing the fabric will have the same appearance as when new. The degree of pliability, stiffness, and gloss of cotton fabrics is due to the sizing, especially the starches. There are many varieties of starch, such as corn, wheat, rice, and blended starches. These blended starches are combinations of two or of all the others, with perhaps some borax and paraffin included. This is usually what the purchaser gets when she asks for " laundry starch." The quality of starch which adapts it for use as a dressing is its viscosity — its stickiness or tenacity. Of the three starches, corn has the greatest viscosity, but more pliability, and rice has the least viscosity.

Thick starch is used for uniforms, collars, and cuffs. A medium starch is used for lingerie. A light starch is used for curtains and very fine pieces. Borax, alum, and paraffin will improve the starch so that better color, gloss, and pliability will be obtained on the fabric. Tints may be obtained by the addition of bluing or other dyestuffs. Gum arabic and dextrine, that is, starches modified into a gum, are very good substitutes for starch, especially for delicate fabrics such as organdies.

Special Precautions. Some thorough housewives still soak articles in salt or vinegar solutions to set the color, but this is unnecessary labor. Modern dye methods are now so perfected that cotton dyes are absolutely permanent, and with ordinary care in laundering there is no danger of the colors running or fading.

In washing colored cottons or linens the water should be lukewarm and a mild soap used. Thorough rinsing in several waters is essential, and they should be dried in the shade. After sprinkling they should be tightly rolled so that the moisture will spread evenly.

A very hot iron may change the color, so use a moderately hot iron. Even then some colors will change until the moisture from the air restores the original tone.

Steam scald makes clothes white. Use good white soap flakes to wash the clothes, then give them scalding hot rinses and hang them quite wet in the direct sunlight, and you will get almost the same results as the laundry does; — the hotter the water, the whiter the clothes will be. Give them two or three hot water rinses before putting them into the cold rinse. Remember that the water must be very hot and there must be plenty of it to secure perfect results.

Silks and Wools. Wool and silk, being more delicate than cotton and linen, require more careful treatment. The use of very hot water must be avoided, as it turns both wool and silk yellow, shrinks wool, and weakens silk and injures its finish. These materials will not stand much rubbing, as this felts the wool fibers and results in a shrinking or thickening of the material, while it breaks delicate silk fabrics. Both wool and silk are dissolved by strong alkalis and are injured even by washing soda or strongly alkaline soap. The only alkalis which should be used in laundering or removing stains from wool and silk are the milder ones like borax or dilute solutions of ammonia.

Wool and silk are yellowed or destroyed by even a weak alkaline solution. Even if the fiber is not affected by the alkali, the color may be changed or destroyed. It is important, therefore, to neutralize alkali spots due to soap or soap powder immediately after use. Use any of the following agents:

1. Water. Rinse thoroughly. Frequently this is sufficient in the case of such alkalis as washing soda and ammonia.

2. A mild acid. Apply the acid with a cloth until the fabric changes back to its original color, or until the stain is slightly acid as shown by its reaction to litmus paper or by the odor or taste. Then rinse the fabric thoroughly in water. In the case of colored goods it is helpful to rub the stain dry, using a piece of the same material as the stained fabric, if possible.

Woolens. Friction, hot water, and soap will cause the scales in wool fibers to interlock and shrink. Therefore, care must be exercised in washing woolens. Experience shows that warm water with a moderate amount of soap in it will wash the winter woolens with the least amount of shrinkage.

Woolen clothing should not be pre-soaked and should be washed as quickly as possible. Turning the garments inside out and brushing them, especially along seams and pockets, removes the loose dirt and makes the washing easier. The water in which they are washed should be lukewarm, not hot. A good suds should be made before the clothing is put into the water, and the sudsy water should be squeezed through the clothes. Spots which are very soiled may have a little of the soap solution applied directly to them, but the garments should not be rubbed or twisted during the process.

If the garments are very soiled they may need a second washing in fresh, soapy water before being rinsed. All the water, whether for washing or rinsing, should be at the same temperature. A wringer is best for getting the water out of wools, but if one is not available the garments should be squeezed and not twisted or wrung.

Woven wool garments should be stretched, shaped, and hung up to dry as straight as possible. Skirts and trousers may be hung by the band with hangers or safety pins, and blankets and other flat pieces should be hung over a line and pulled until the edges are even and straight. All woolens should be dried in a moderate temperature, not out of doors in winter, as freezing also makes them shrink.

The shrinking of woolens can be controlled by careful laundering. Shrinkage is caused by changes of temperature while wet, therefore all waters should be of the same temperature. Woolens should be washed in a lukewarm soap solution and the several rinsing waters should be slightly soapy to keep the fabric soft and fluffy.

1. Wool will become stiff and harsh as well as shrunken if an alkali soap is used.

2. Improper handling is another cause of shrinking. Woolens must not be twisted or wrung. The water should be gently pressed out with the hands. If squeezed or wrung the wet fibers will interlock and this naturally causes shrinkage.

3. Too rapid drying causes shrinkage. Wool garments should be carefully pulled into shape and not exposed to great heat in drying. It is best to iron them under a damp cloth, and they should not be ironed perfectly dry, for wool in its natural state contains some moisture. Hang them up to dry sufficiently before wearing.

Both wool and mixtures of cotton or silk and wool need the same care in laundering to keep them soft and full size.

If knitted garments are frequently and thoroughly brushed they will not soil so quickly. Since knitted fabrics are made of soft-spun yarns which give them great elasticity, extreme care must be taken in washing and drying so that they will not stretch or shrink out of shape. When laundering them the best results are obtained if they are washed in a net or cheese-cloth bag. This prevents their stretching out of shape. To dry them lay on a flat surface after gently pulling them into the original shape.

Union fabrics must be treated very carefully, as if they were composed of all weak fiber. Thus, a wool and cotton garment requires the treatment of an all-wool garment; otherwise, an unequal shrinkage will take place.

Pressing. Good pressing is an art, and bad pressing is worse than none. To press well, one must learn to use an iron skillfully and to make good use of steam. No hard and fast rule about the amount of steam required can be given, but, in general, the heavier the material is the more steam and the hotter iron needed. For heavy material, a thick pressing cloth is necessary to carry sufficient moisture and steam to the garment being pressed. For thinner material, such as silks of all kinds, less steam and thinner pressing cloths are required. Nor should the iron be so hot for thin as for thick material. There is no material, unless it is chiffon, that cannot be steamed slightly. By steaming slightly is meant wetting a thin piece of cloth, wringing it as dry as possible, then drying it even more by patting it with the hot iron until it is just damp, before using it on the material to be pressed. This thin, damp cloth will give just a small amount of steam and may be used on almost any silk material.

The iron should be hot enough to snap sharply, especially if a damp cloth is to be used.

Do not use the finger tips to sprinkle water on any kind of material. Always use a cloth. Only in this way can you be sure of an even amount of moisture and a flat, well-pressed seam.

Pressing removes all forms of wrinkles. Since the smooth, hot iron may cause a luster on the fabric, it is customary to press on the wrong side or use a cloth covering slightly damped. In order that pleats may be properly pressed into shape they should be basted in place before pressing.

Removal of Shine. Since the " shine " on hard and soft worsted fabrics is due to the smoothness caused by friction, any process that will destroy this smoothness will remove the shine. Since alkalis will modify wool, a treatment may be applied as follows:

Cover the right side of the material with a cloth wrung out of ammonia water (4 or 5 drops of ammonia to 1 quart of water), press with a medium-hot iron until the cloth is partly dry, and then brush the wool vigorously with a stiff brush.

Stains. While washing will remove most of the ordinary dirt, extra care must be exercised in removing stains. For the removal of stains we must know: (*a*) the composition or kind of stain, (*b*) the kind and composition of the material stained, (*c*) the length of time the stain has been on the fabric.

The method of treatment adopted depends as much upon the nature, color, weave, finish, and weight of the fabric as upon the stain. Because cotton and linen are vegetable, they are destroyed by strong acids and attacked to some extent even by weaker ones. Concentrated acids, therefore, should never be used in removing stains from these fabrics, and when dilute acids are used they should be neutralized afterwards with a suitable alkali or removed by thorough rinsing; otherwise the acid will become concentrated by the water in solution evaporating or drying and destroy the fibers.

Generally speaking, alkalis do not attack cotton or linen fabrics to the extent that acids do. However, long-continued or repeated exposure to alkalis, especially in hot solution, weakens the fibers and consequently the cloth. The damage to fabrics resulting from the careless use of strong alkaline soaps, washing powders, washing soda, or lye may not appear great, but considerable damage is done.

Stains include grease spots, juices of vegetables and fruits, splashes from beverages (tea, coffee, etc.), on table linen; heavy grease, gravy, etc., on kitchen cloths; perspiration stains and blood on body linen. Sugar and resins make awkward stains as they are sticky and soluble under ordinary conditions. Roughened fibers of wool and cotton are likely to pick and retain the soiling matter more easily than the smoother silk and linen. Absorbent fibers will take up more perspiration and moisture and retain them, while the stains on the harder linen and ramie are easily removed.

Moist heat causes wool to shrink, and owing to the serration of fibers, it becomes interlocked and matted. We find this effect produced by perspiration on underwear. Moreover, perspiration contains alkaline salts, and these quickly attack animal substance, making it hairy and drying up the natural cell oil. Often woolens stained with perspiration are so matted and heavy that they are difficult to clean.

Milk stains contain protein and fat and should first be sponged or rinsed in cold or lukewarm water, then washed with hot water and soap. For the grease use gasoline or carbon tetrachloride. For unwashable fabrics sponge with the grease solvent and allow the stain to dry, then sponge carefully with water. Stubborn milk stains will yield to a mixture of one part turpentine with two parts essence of lemon. Rub gently with a soft cloth until the stain disappears.

Dry Cleaning. Dry cleaning is used to remove stains from woolens, silks, etc. The steps for dry cleaning are as follows:

(*a*) Proper sorting of soiled articles is important, as separate treatment is demanded for various colors, textures, and types of articles. This is the first step in successful cleaning.

(*b*) The next is " washing." It is not generally known that in a dry-cleaning plant washing in soap and water is the only advisable treatment for many articles. A reliable dry-cleaner will not subject articles to wet washing if he is doubtful of the result, unless he obtains the consent of the owner of the article.

(*c*) The " dry washing " process requires equipment similar to that in a wash-room of a commercial laundry. The large cylindrical washers have an inside perforated revolving cylinder type of washing machine used in many home laundries. The cleaning fluid is gasoline, naphtha, or a similar grease solvent. A soap which is soluble in these is also used.

The clothes are placed in the inside cylinder, a supply of clear cleaning fluid flows into the outer cylinder, and the machine runs for a given period. The black fluid discharged from the washer is a convincing proof of the cleaning accomplished. This process is repeated several times, finally without soap, using only the solvent.

(*d*) The clothes now go to a large centrifugal extractor to have the remaining solvent removed, and are then passed on to a drying

"tumbler," in which, as the clothes tumble about, a current of heated air blows away all traces of the odor of the cleaner.

Some articles cannot be cleaned in the washer. These are cleaned on specially constructed tables and dried in ventilated rooms.

(*e*) Now comes an important part of the cleaning process. It brings us to the "spotting boards," the most fascinating corner of the whole plant. The dry washing removes only soil and stains soluble in gasoline or naphtha and held in the fabric by a greasy film or deposit. Many stains are not touched by this cleaning, and each of these needs very careful attention.

(*f*) The articles then go to the pressing room and have a final inspection.

Repairs. Clothing should be frequently examined to see if any portion is defective, due to tear, breakage of yarn, or to friction. It is easier to repair small breaks than large ones.

Textile Sewing and Mending. Moth holes, tears, and missing threads frequently damage cloth. These defects may be remedied in the following way:

(1) Remove any loose threads from the defects.

(2) Take similar yarn from the selvedge or cloth.

(3) Weave the yarn in the warp as shown in the design on page 201 so as to take the place of the missing yarn.

(4) Weave the yarn in the filling in the same way.

(5) Cut off the loose ends and press the cloth.

Fabrics will last longer if they are looked over regularly, brushed, cleaned, "aired," mended, pressed (if clothing), and placed on a hanger.

QUESTIONS

1. Why is the purchase and conservation of clothing important?
2. What are the points to remember when we buy clothing?
3. What is the advantage of conservative clothing?
4. What are the different methods of describing the same fabric?
5. How would you judge a fabric?
6. What has (*a*) length of fiber, (*b*) elasticity of weave, (*c*) absorbing power, (*d*) finish, to do with the use of the fabric?

7. How may inferior fabrics be substituted for normal ones?

8. What are the forces a fabric is subject to when it has been made into a costume?

9. Name some of the points to bear in mind in buying a costume.

10. What are the advantages and disadvantages of trade marks?

11. What care should be taken of clothing?

12. How will different qualities of crepe differ in structure and durability?

13. What is the modern theory of the hygiene of clothing?

14. What points should be considered in the use of clothing?

15. What should be the characteristics (style and artistic) of outer clothing? How may it be kept in that condition?

16. What is the purpose of pressing?

17. What are the characteristics of clothing?

18. Why is water important in cleaning clothes?

19. What is meant by saying (*a*) substance is organic, (*b*) lime is inorganic, (*c*) ammonia is alkaline, (*d*) perspiration under the arm is alkaline, (*e*) ether is a solvent for grease?

20. (*a*) What is a soap? (*b*) What is the purpose of a soap? (*c*) Name and describe the different kinds of soaps?

21. How may clothing be cleaned?

22. Name and describe the different steps in cleaning clothes — cottons and linens.

23. Why must the operations for washing clothing be adapted to the kind of material in the clothing?

24. Explain the purpose of starching and ironing clothing.

CHAPTER XII

ECONOMIC VALUE OF CLOTHING

Importance. We are all interested in the best methods of supplying clothing to the family or ourselves at the least cost. In order to do this, we must avoid waste and secure one hundred cents' value out of each dollar we spend. Also, we should have an appreciative knowledge of the most efficient methods of making, buying, and using clothing. The experiences of people successful in this respect have been compiled and constitute the science of economics applied to clothing.

The economics of clothing includes (1) efficient production, that is, production at the least cost, without waste or inefficiency; (2) efficient distribution, that is, the rapid transfer of clothing from the manufacturer to the user; and (3) efficient consumption, that is, proper selection, purchasing, and conservation.

Many people dislike the term economics or economical, because they think it means " close " or " stingy, " and for that reason dislike the study of the subject or anything pertaining to it. This idea is false, as economical means conserving waste so that one can obtain the best results. For example, economical consumption means efficient buying and conserving — buying what is necessary, or what we can afford, and using it to best advantage. Sometimes it may be good economy to purchase high-priced clothing, and at other times inexpensive wearing apparel will do as well; hence either practice would be economical or constitute good economic consumption, depending upon conditions.

Value and Price. We purchase clothing, as anything else, because it is useful or satisfies a definite want in one's life. The special quality that the article possesses for our use is called value. We usually express this value in dollars or cents, and this

amount, called *price*, is what we pay when we purchase any commodity. Thus, we see that the price of any article is the value of that article in terms of the standard currency of the country, which in the United States is the gold dollar. That is, when we purchase a piece of clothing we pay the price or the equivalent in dollars. So we can use value in two ways: (*a*) referring to the qualities articles possess that satisfy our needs, and (*b*) the price of the article that we purchase.

The price of clothing or any other article tends to fall when the supply is increased or when the demand for the article decreases. For example, at the beginning of a style season we pay more for clothing than at the end of the season because the demand is greatest at the beginning and least at the end of the season. Hence " bargains, " or clothing at reduced prices, are found at the middle or end of the season. The price we pay for an article is called the initial price. The full original price is what the article has actually cost us for repairs, cleaning, etc., during its life. Therefore, in the purchase of this utility we must compare the different articles of clothing, not only considering the initial price, but approximating the total or final price.

Many people feel that extravagance in dress may be justified on the ground that it places money in circulation, thus giving other people employment. In order to benefit the community, and therefore the individual to the highest degree, money should be spent for the things that give the greatest return — the necessities or the important wants of man.

The consumer determines what kind of clothing or wearing apparel shall be made. The amount one spends on a commodity such as clothing is called the *purchasing power* of that consumer in clothing. Of course, the consumer of clothing may be educated to some extent by the advertising in the daily paper and fashion magazine, or by skillful salesmanship on the part of the salesman or saleswoman.

Need for Economics for Consumer. In order to avoid waste, particularly in wearing apparel, we must have efficiency in

production and distribution as well as the proper selection, purchasing, and conservation of clothing. Great emphasis has been placed on production, and to some degree on distribution, but little if any emphasis has been placed on the proper kind of clothing for the individual at reasonable prices, or on the ability to conserve the clothing once purchased.

Women's attempt to secure one hundred cents out of a dollar in the purchase of commodities has laid stress on the laws that govern consumption.

Problems of Economics of Clothing. A study of the economics of clothing should be part of everyone's education, particularly that of girls and women, who are the spenders of income, especially for clothing. Economics of clothing should include a study of (1) how much to spend for clothing; (2) proper selection of clothing, which in turn involves (*a*) what clothing is composed of, (*b*) elements that make clothing beautiful — lines, color, artistic value of the human form, style and fashion; (3) purpose and historical development of each piece of wearing apparel, (4) trimmings of clothing, (5) how to judge and buy clothing, (6) the conservation of clothing, etc., (7) need of cooperation between consumer, distributor, and producer in order to meet effectively the needs of the public with regard to clothing.

Wasteful consumption means the production of luxuries to satisfy the whims or fancies of certain people. Such consumption causes a reduction in the production of the necessities.

Competition and Rivalry. Cloth or clothing, like any other commodity, is produced by many manufacturers. There is rivalry among the producers as to who can sell the most. As the result of this rivalry, which is called competition, there is a tendency to sell at a price that equals the real cost of production. The consumer is anxious to secure the lowest price, hence competition tends to lower prices to a minimum. Sometimes there is an element of risk to industry in carrying competiton too far. Price-cutting sometimes takes selling below the real cost price. The result is that the seller

will demand these lower prices and failures in business will take place.

Then again manufacturers and retail stores frequently meet and form associations and decide on prices and other conditions. This is called monopoly. In fact, business men tend to eliminate competition and substitute some kind of monopoly.

Cost of Selling. The retail price paid for a fabric is very constant except under special conditions. The difference between the cost of manufacture of a fabric or costume and what the consumer pays is called the cost of selling. Very few of the buying public realize the cost of selling. Sometimes it costs as much as two hundred per cent above the original mill price to place an article in the hands of the consumer. To illustrate: A yard of gingham cloth may cost at the mill 14 cents and is sold to the retail store for 28 cents. The retail store sells the gingham to the consumer for 42 cents a yard. The mill price for a staple is usually determined by adding eight to ten per cent to the complete cost of manufacturing and selling.

There are two methods of calculating profit: (1) considering the selling price as a basis, and (2) considering the buying price as a basis.

SOLUTION: *Method No.* 1

\$0.14 mill price
.28 wholesale price
.42 retail price

Cost of selling (wholesale) is 50 % of selling price, or 100 % of mill price.

Cost of selling (retail) is 33 1/3 % of selling price, or 50 % of buying price.

Retail price is 200 % over original mill price.

Method No. 2

Cost of selling (wholesale) is 100 % of purchasing price.

Cost of selling (retail) is 50 % of purchase price.

Retail price is 200 % over original mill price.

The mill price for a novelty is usually determined by adding 25 %

to 100% to the complete cost of manufacturing, depending upon the risk involved in selling the whole production of the fabric.

Similarly, the price of a costume is based on the cost of materials, hours of labor of the workers on the garment — designer, draper, fitter, — overhead expense, and percentage of profit. The manufacturer's price of the costume, that is, the price the manufacturer charges, may be expressed as follows: Cost of materials, plus cost of labor and wages of management, plus overhead, plus profit.

The cost of labor includes the hours of labor of the unskilled, skilled, experts, designers, drapers and fitters, and others who take part in the construction of the garment. The overhead includes the amount set aside per hour or per costume for rent, light, heat, office, etc.

If the costume is a staple fabric or suit and the manufacturer feels certain that he will be able to sell it, the profit may be only eight per cent on the cost of manufacturing. It should be at least ten per cent. If, on the other hand, the fabric or costume is a fancy and there is an element of risk in selling, then the profit may be 25 to 75 per cent on the cost of manufacturing. Most costumes are sold by manufacturers direct to the retailers or dry goods stores.

Limits of a Price. The price of any article of clothing or any other commodity cannot, year after year, fall below the cost of producing it. For if the price should fall below the cost of production, the manufacturer or producer would not raise or manufacture the article. When this condition takes place, the supply is reduced and, of course, the price of the commodity is increased.

On the other hand, there is a limit to what a consumer will pay for a piece of wearing apparel, and if this is exceeded there is practically no demand, and the commodities will be on hand to be sold at reduced or bargain prices in order to get rid of them. In other words, the upper limit of price is governed practically by the demand of the consumer.

High Cost of Clothing. The question may be asked, why does it cost more in dollars and cents for wearing apparel today than twenty years ago? The prices of clothing like the prices of all

commodities have risen in the last generation for the following reasons: (1) due to the lower value of gold, the money standard, and (2) the higher cost of production and distribution.

The first reason can be explained as follows: If a dress in 1910 could be produced for $18, it means that the exchange value of the dress in 1910 in gold was $18. In 1929 the same dress has a price of $39, which means the exchange value in gold in 1929 is $39. Since the price of clothing or other commodities is expressed in terms of the exchange value of the gold, it follows that when the quantity of gold or other standard money increases the prices rise, while if the quantity of gold or other standard money decreases the prices of all articles decrease.

The increase in the cost of clothing during the last fifty years is due primarily to the high cost of distribution rather than the increased cost of production, for while the purchasing power of the dollar of 1870 may have been twice as great as the purchasing power of the dollar of 1920, at the same time the factories erected with the dollars of 1920 were capable of producing much more than twice as many goods as were produced in the factories erected with the dollars of 1870. As a matter of fact, the cost of manufacturing during this period has been reduced one-fifth. During those fifty years the population of this country increased from 38,588,371 to 105,710,020. The percentage of people engaged in production has decreased from 80 per cent in 1870 to 70 per cent in 1920; the percentage of people engaged in distribution has increased from 12 per cent to 30 per cent during the same period. The increase in the cost of distribution is due to extravagant marketing, that is, buying and selling of goods after they are produced, and increased cost of distribution, such as commercial travelers. In fifty years, traveling salesmen have increased 716 per cent, all receiving high salaries, commissions, and expenses. This has increased threefold the cost of putting goods into the consumer's hands.

It may be well to enumerate some of the factors in the cost of selling, such as, for instance, planning the campaign of selling:

(*a*) Determining the exact field or market.

(*b*) Finding the most effective system of presenting goods to the public — advertising.

(*c*) Investigation of the financial standing of the buying public.

(*d*) Investment and upkeep of building and equipment, of showroom, storage, etc.

(*e*) Cost of transportation — freight, trucking, shortage, insurance, etc.

(*f*) Expenses and salaries of selling force and assistants.

(*g*) Losses due to bad debts, depreciated goods on hand, etc.

(*h*) Accumulation and classification of information relating to the field of manufacturing and destination.

(*i*) Fair profit on capital invested.

The salesman must be trained scientifically in the following:

1. Selling points of the textiles. (Use, characteristics, etc.)
2. Field for product; the developed and undeveloped market.
3. Basis of appeal to the buying public.
4. Determination of price and credit to customers, due to difference in locality, and competition.

Installment Buying. The practice of securing clothing or any other commodity and paying for it while using it is called "installment buying." Installment buying is based upon the fact that 90 per cent of the people are honest, and feel that their credit is worth developing.

Installment buying is serving a legitimate purpose in our economic life, and to that extent it is good, because it gives one with a limited income an opportunity to dress well and pay for the clothing at the same time. It made its appearance in this country in 1807, and was later developed by a prominent sewing machine company, which began installment selling in 1856. Installment buying has had a gradual development, with its greatest expansion about 1921.

Variety of Fabrics. Originally, in the pioneer stage, clothing was worn for warmth and modesty, and was very simple in character. But today, due to increase in wealth, more variety of clothing is necessary. Style is desired in addition to warmth.

The consumption or demand for clothing is greatly increased if there is variety, because each one can select clothing a little different from his neighbor. Hence there is a great development of the

artistic side of clothing — harmonious color schemes, materials, and trimmings.

American-made Fabrics. The people of America should make a special effort to purchase American-made fabrics and American-made costumes. While it has been true in the past, and may be in some cases today, that European fabrics are of finer quality and more original in design, there is a distinct effort on the part of the American manufacturers to improve the quality, originality, and variety of design. The American manufacturers should be encouraged in this field by the women and others, by purchasing domestic-made fabrics and by offering constructive suggestions to the manufacturers for new designs.

The same line of reasoning applies to American-made costumes. While it is true that Paris has been the style center for women's costumes and London the style center for men's clothing, there is no reason why a definite progressive movement should not be made to make New York the style center of both women's and men's clothing. This can be done only by encouragement and constructive suggestion on the part of the consumer and a sense of loyalty in the purchase of only American-made styles.

Even Distribution. In order to distribute production twelve months a year so that the manufacturers can employ their help regularly on scheduled time and thus avoid " overtime " work, a definite movement has been started to do away with two-season and four-season style production. Under the old plan, manufacturers have found that by producing sizable stocks they have been obliged to sustain considerable loss on " numbers " which do not sell as well as had been expected. The result is that the mark-down on the unsold surplus very often more than offsets the profit on the part of the stock that is sold at a fair price. The tendency in some parts of the market now is not merely to talk about new styles every time a buyer comes to town, but to have " seasons " every month. In planning a line for November, for instance, these houses entirely disregard styles that were used in October. November styles become *passé* on November 30th, and December 1st sees the presentation of still another line.

As a result of swift changes and the consumer's failure to respond to some of them, the retailer today is continually being left with

unmarketable goods on his shelves which must be sold at a loss. His tendency toward piece-meal buying is partly attributable to his efforts to avoid losses on unpopular or outlived fashions.

Change of style, as expressed in short skirts, light-weight clothes, and simple dress, have led to a reduction in the quantity of fabric required. Steam heat and closed cars have made a surprising difference in this respect. There is practically no market left for the heavy underwear which was once so popular in cold sections of the country. However, the resulting curtailment of output is somewhat offset by the fact that people demand a greater variety of garments throughout the year.

Effects of Many Styles. While the multiplicity of styles in many lines of merchandise has been productive of sales stimulation, it is an increasingly important factor in the mark-down percentages of most retail stores. The continued searching for novelty effects has made style changes practically a mania and is bringing with it serious losses through too frequent changes.

In studying mark-downs, few divide them into their proper classifications. In the first class are mark-downs taken on merchandise to be used as sale items in order to bring more customers into the store on a given day. It is questionable if reductions in this class should be termed mark-downs. Actually they are advertising allowances, or money spent to attract customers.

The second class of mark-downs is on merchandise that has lost a part of its desirability because of being out of date. There is a third classification for mark-downs — for goods that have become soiled, handled, or broken, but the percentage of this class of mark-downs is so small that it can be ignored. Stores today are making valiant efforts to reduce the second class of mark-downs.

Preliminary Styles. One of the great sources of waste in the clothing industry is the attempt to produce early models based upon the " new style." Often the new style may be modified, causing the early models to be sold below cost. The preparation of models by garment manufacturers before they have had an

adequate opportunity for acquainting themselves with the authentic trend of fashion is causing an annual loss of many hundreds of thousands of dollars to the ready-to-wear industry.

Due to premature production, the average woman's apparel producer is forced to withdraw fully one hundred samples from his line in the course of a given season, chiefly because these numbers fail to meet certain clearly defined style tendencies. The tremendous wastage of effort and expenditure incurred through the new season places an unwarranted burden of cost upon the consumer, retailer, and manufacturer alike.

Few people realize the cost of making sample costumes. In a house making high-grade coats, for example, one highly skilled designer assisted by seven or eight sample hands can produce between eight and twelve new numbers a week. The average cost of labor alone on each of these garments is fully $100. The materials consumed in this way represent a surprisingly large expenditure. Under the present method of model preparation in the trade, hardly 25 out of each 100 new numbers are retained in a manufacturer's line.

This loss could be substantially reduced if producers were willing to wait until a season actually got under way before they made any but a scant few of their models. Of course, there will always be models discarded, because manufacturers cannot gauge the demand correctly in every instance.

These conditions have a demoralizing effect on the mills, and more or less raise the price of fabrics. This expense could be reduced to some degree, if not altogether, by the consumers themselves — women, co-operating with the producers and distributors. Today the prosperity of many clothing manufactuers depends on models catching the popular fancy. Changes in style often bring poverty to many, while others more fortunate reap wealth. For example, absence of trimming meant a decline in laces. Felt hats mean the absence of ostrich feathers, which in turn wipes out the industry of raising ostriches. Bobbed hair has practically wiped out the ribbon industry.

The rapidity with which wearing apparel changes causes the manufacturer more or less anxiety, as he is anxious not to have old styles on his hands. The same is true with a mill that makes only one kind of fabric. An analysis should be made of style tendencies in order to see if they can be regulated.

Models and Special Forms. For many years only costumes for the model forms were ready-made. Alterations in the model costumes were made for the short, stout, etc. Of course, many women who were unable to be fitted from the model costumes had their costumes made by dressmakers. But today there is a tendency to have model costumes for all types: (*a*) short stouts, (*b*) stylish stouts, (*c*) short thins, etc. In fact, there are shops, often called petite shops, that specialize in costumes for small women. Ready-made or ready-to-wear costumes have come to stay, as women do not care to waste time and endure the discomfort of trying on costumes.

How Styles Are Produced. American style leaders may visit various European cities and resorts, but they center their purchasing activities in the French capital. Whatever Paris dictates is accepted by stylists in this country as authoritative.

Can Style Be Regulated? Many feel that making style costumes is done in a frivolous and a superficial way. Sometimes it may seem that there is some justification for this remark, but a careful study will show that fashion is regulated by laws that can be easily grasped and applied to business, as the laws of economics. What are these laws?

(1) High rate of production and consumption due to wealth.

(2) Wide dissemination of knowledge, which brings an increase in desire, which in turn stimulates the willingness to work in order to gratify the desire.

(3) Longing on the part of human nature for distinction, which leads one to seek beauty in all its forms — effort to beautify person.

(4) People have a natural taste for dress, which may represent high or low points in our artistic scale, which the style must please.

Therefore, a public that is educated or developed along artistic lines will appreciate better styles.

(5) The spirit of change or desire for novelty is strong in human nature. Even if a woman of taste may find exactly what is best suited for her in line and color harmony, she cannot hold to it if she wants to please herself and attract favorable attention from the members of her family and her circle of friends.

(6) The desire of human nature to have its wants gratified immediately — not only beauty in design and harmony in color, but a wanted design or a marked color at that particular time.

Therefore, manufacturers and designers of fabrics, distributors, including wholesalers, retailers, and consumers, should know the laws governing fashion and know how to apply them. The public should feel that the ebb and flow of change in fashion, or to use the trade term "style," is not a scheme on the part of manufacturers to increase business, but an honest effort to supply customers with what they want. It is possible for the consumer to be trained and educated to appreciate proper designs and colors that would be within the scope of the manufacturers.

The manufacturers can collect style tendencies. This would merely call for the establishment of a bureau which would gather all the necessary data from the stylists, assuming that they are ready to supply the information, and then distribute the data for the guidance of the fabric producers.

QUESTIONS

1. What is meant by the expression, "economics value of clothing"?
2. Why is the term "economics" repulsive to some people?
3. What is the difference between value and power?
4. Is extravagance in dress justifiable?
5. Why is the study of economics important to all?
6. (*a*) What is the difference between competition and rivalry? (*b*) Explain in terms of clothing.
7. (*a*) What is meant by the expression "cost of selling." (*b*) State the two methods of calculating profit. (*c*) Give examples.

8. What is the difference between staple and novelty clothing?
9. Is there a limit to a price of clothing?
10. (*a*) What is meant by the expression "high cost of clothing"? (*b*) Apply it to clothing.
11. What contributes to the high cost of selling?
12. (*a*) What is meant by installment buying? (*b*) Can you justify it in clothing?
13. What effect has frequent changes of style on the price of clothing?
14. How can styles be regulated?

CHAPTER XIII

BUDGET SYSTEM OF CLOTHING

Importance. Clothing is connected with one of the most important problems which confronts us today. We all desire to dress as attractively as possible, which means that we must spend a considerable part of our income for garments. The task of getting full value out of every dollar we spend and as much service as possible out of everything we purchase, requires careful planning of our income, and we must purchase intelligently in order to be able to include the necessities and some of the luxuries of life.

Waste in Purchase. Investigations have demonstrated that there is a tremendous waste in the purchase and care of clothing in general, and of women's clothing in particular. It has also been shown that where the expenditures for clothing have been carefully planned, one spends less and dresses better than when one purchases clothing at haphazard.

How can expenditures for clothing be carefully planned? This is best accomplished by planning ahead for two or three years on the basis of our present wardrobe (an inventory). A survey of this inventory enables us to plan for renewals and additions and makes possible intelligent planning for the coming year.

Income and Expenses. A family is considered the unit of society. It usually consists of a father, mother, and children. The father provides, through his earning power, the income for the support of the family. Sometimes the mother and grown-up children may contribute to it. The income of the family includes the money earned by all the members, or its material equivalent derived from all sources, such as salary or earnings, interest on investments, gifts, income equivalents such as shelter, fuel,

furnishings, and clothing, and food or other commodities raised on a farm or in a garden. The expenses for all members of the family are considered the charges. Occasionally a single person may live as an individual unit and may be regarded as such, as against the family unit, in considering the relation between earning and spending power. Receipts and expenses (sometimes called disbursements) for both the family and the individual unit should be tabulated as a yearly summary, as shown below:

YEARLY SUMMARY

Receipts	*Receipts*	*Disbursements*
Cash on hand January 1		
Salary, earnings, interest on investments, income equivalents — such as gifts, shelter, fuel furnishings and clothing, and food or other commodities raised on a farm or in a garden.		
Disbursements		
Savings and insurance, taxes		
Rent, fuel, light		
Food		
Clothing		
Laundry		
Car fares		
Stamps and stationery		
Health		
Recreation		
Gifts, church, charity		
Incidentals.		
Balance on hand December 31		
Totals		

If we examine expenses, often called charges, we shall find that some of them, such as rent, taxes, etc., are absolutely necessary and are constant in value. That is, we know from month to month the amount of rent, etc. These expenses are called *fixed charges*, to distinguish from other expenses, called *estimated expenses*, that are also necessary but vary in amount from month

to month and must be estimated in working up a proposed plan of income and expenses; the sums spent for travelling, recreation, etc., may be governed by what we have left after the fixed and estimated charges have been deducted; hence they are called *limited charges.*

An expense account showing each year's record of receipts and expenditures is shown on page 315.

Budget. In order to spend our income effectively on clothing and other necessities we should have (1) a plan or statement of proposed expenditures, called a *budget;* (2) an accurate record of all the items involving income and expenditure as shown by the book of account; (3) a review of expenditures from month to month — or year to year — frequently called an *audit* — to see if the record is correct and justifiable. This last step will assist us in preparing the new budget for the stipulated time — a year or a month.

How Parts of Incomes Are Expressed. Parts spent or distributed may be expressed as a form of a common fraction, where the income is the denominator and the amount spent is the numerator. Thus, income $2000, amount spent for clothing $400:

Part of income, expressed as fraction: $\$\frac{400}{2000}$, read "four hundred two thousandths." Reduced to lowest terms by cancellation: one-fifth. $\frac{400}{2000} = \frac{1}{5}$

Sometimes the common fraction does not easily reduce to simple terms by cancellation, so it is the usual custom to express the fraction as percentage or parts per hundred. This may be done by multiplying the fraction by 100 per cent which is the whole income. To illustrate:

$$\frac{1}{5} = \frac{1}{5} \times 100\,\% = 20\,\%.$$

Divisions of Budget. A budget should be apportioned into the following divisions: (*a*) food, (*b*) shelter, (*c*) clothing, (*d*) operation of house, (*e*) personal or family improvement, (*f*) sav-

ings. The food division should include all items of nutriment. All expenses relating to rent, taxes, insurance, interest on mortgage, etc., should be included under *shelter*. *Clothing* includes all articles of clothing, such as underwear, dresses, suits, shoes, hats, materials for making, cost of cleaning and repairing, and accessories. *Operation expenses* must include all items used in running the home, such as fuel for heat, light, household supplies, refurnishing, service, laundry, telephone, and expressage. *Personal or family improvement* includes expenses necessary to maintaining health (doctor, dentist, nurse, and medicine). *Savings* include bank accounts, postal savings deposits, building and loan shares, life insurance, stocks, bonds, mortgages, government securities, and real estate.

Individual and Family Budgets. Everyone, whether a family or individual unit, should maintain a budget system of expenditures. Many of us may associate the budget with the family or home unit, but experience proves that planned expenditures, savings made before spending, and a careful choice of purchases, rather than haphazard shopping, will prove just as profitable to the single business girl or man as to the family group.

The individual budget will differ very little from that of the family, since the principles involved are the same. Of course, the application of these principles will vary just as it does in the family budget.

Naturally, the business girl's budget will be different from that of the girl at home, who has the advantages that follow living at home, such as laundry, home sewing, etc. Clothes must be chosen for their durability and the selection made of those requiring only a minimum of cleaning.

The personal budget division of the business girl is likely to require a larger percentage of the income than the operating, although in a family budget they are usually allotted the same amount. In the individual budget, the term *personal* must cover recreation, education, health, new equipment, personal indulgences, travel, vacation, gifts, philanthropy, church, and club

dues. Some people further subdivide this section under such headings as health, education, recreation, benevolence; others subdivide it into health, lectures, books and magazines, classes, social life, theater, gifts, vacations, church, automobile, travel, etc. Everything depends on the size of the income and the standards of the individual.

If a person spends more than the proper allowance for clothing, there will naturally be less to spend for education, recreation, travel, or other forms of enjoyment of higher life.

Value of a Budget. The budget system of spending one's money teaches one:

(*a*) To understand and appreciate one of the biggest problems of the home.

(*b*) To get better returns for money spent, by careful analysis and through the experiences of others.

(*c*) To keep expenditures within income.

(*d*) To eliminate non-essential expenses.

Thus the budget system has distinct economic (guarding against waste) and social (habits of thrift) values.

Limits of Expenditure. With the income and past expenditure and an inventory of articles on hand as a basis (or, if you are a beginner, use a time-tried budget from the U. S. Government reports), make a detailed plan or clothing budget of the anticipated articles needed and the amount of expenditure (budget) for the coming year. If possible, it is a good plan to lay out a budget for three years.

The next important question is, " Is my amount of expenditures or budget too much or too little? " In other words, " How much should I spend for clothes? " That is, " What part or percentage of my income should be spent for clothing?"

Careful investigations made in different parts of the country show a variance. For example, in a small manufacturing or agricultural section where thrift or the saving habit is strong, people are inclined to be conservative in dress and style,[1] and do

[1] Some spend as low as 8 per cent.

not spend as much as they do in larger commercial communities or style centers where the spirit of thrift is not strong and where every one desires to be up to date in every respect. Then again, we must consider that there are some people called " tightwads " or " misers." Some in every community go to the extreme in saving and deprive themselves of the necessities for decent living. On the other hand, there are more who go to the other extreme. Spendthrifts spend all, if not more, than they earn and are always hopelessly in debt. Between these limits there are many variations of standards in purchasing clothing. The one that should appeal to all of us is the person who displays sanity in all his transactions and shows a spirit of thrift or sane living.

Standard of Living. In order to consider the budget of clothing intelligently it becomes necessary to take an all-round view of living conditions and consider briefly other important items of expenditure.

The standard of living may be regarded as the list of goods and services that a person, family, or class has formed the habit of regarding as necessary. Experience shows us that this standard is fairly constant for each person, family, or class, due to the fact that every one, through pride, will try by sacrifice and practice to maintain it. To illustrate: If we look around the community we shall find that the laboring men's families satisfy themselves with inferior or cheaper clothing, etc., than the professional man, which is the same thing as saying that the standard of living of the average laboring man's family is lower than that of the professional man. The standard of living tends to determine the expenditure, or at least to set the limits below which budget or income cannot be lowered.

One's standard of living is usually acquired from the home in which he spends his childhood. Most of us feel compelled to dress in about the style that our associates expect us to. The standard of living depends upon the attitude of our mind as to what we think we need. Many of our wants are acquired simply

by imitation (of our neighbor) and in some cases by thedesier to out-do our neighbor.

Of course, we must bear in mind that the level of health and decency in clothing should be understood as a level which takes into account not only the physical needs of warmth, cleanliness, and comfort, but also regard for appearance and style, such as will permit the family members to appear in public, and within their necessarily rather narrow social circle, with neatness and self-respect. That is, the clothing standards of the family are intended to provide a fair degree of that mental satisfaction which follows being reasonably well-dressed. While admitting the desirability of a more generous wardrobe, one should provide only those quantities of clothing consistent with the minimum requirement for health and decency, and where a doubt exists, it is best to err on the side of conservatism. In other words, a health and decency budget is desirable, with provision for style or fashionable dress. A considerable amount of sewing at home is necessary in order to live economically. A workingman may need six sets of underwear a year, but with effective sewing and reasonable care he can manage on four. The same line of reasoning applies to other pieces of wearing apparel.

Our standard of living should be constantly checked to see if we cannot eliminate some of the things we usually think are absolutely necessary. This can be done only through a budget.

To summarize: A study of the income and expenditures of different classes of people will show that the principles governing the part or percentage of income spent for clothing (allotment) depends upon: (1) size of income, (2) occupation, (3) location, (4) social position, (5) taste, (6) knowledge, (7) individual contributions, (8) skill in purchasing.

Careful investigations have been made by the United States Government and other authorities with regard to the income and expenditures of various families in various stations of life, and from these investigations has been summarized the proportion or division of the income spent for different items, such as (*a*)

food, (*b*) shelter, rent, etc., (*c*) clothing, (*d*) fuel and light, (*e*) recreation, (*f*) savings, etc. Further investigation also shows the part or division of income spent by each member of the family. The following tables have been taken from such reports.

Division of Income. The minimum standard of living would be: (1) the standard of the unskilled worker, whose income would be about $800–$1400; (2) for skilled workers, skilled mechanics, clerical and business employees, $1900–$2500; (3) average professional workers, proprietors, and important executives, $2500–$5000; (4) advanced professional workers, proprietors, and executives, $5000–$20,000.

Proportion of income spent by different classes:

	I	II	III	IV
Food	36 %	32 %	20 %	17
Shelter	25	25	24	25
Clothing	16	18	20	15
Fuel, light, Maintenance, etc.	10	10	15	15
Recreation	10	10	14	13
Savings	3	5	7	15

Class I must confine the purchase of clothing to what is absolutely necessary and with little regard for style. Considerable effort must be devoted to the making, repairing, and remaking of garments. The amount for each member of the family would be illustrated as follows:

Income, $1500; amount for clothing, 16 per cent = $240. Of this amount:

$70 would be for the man (father)
$60 would be for the woman (mother)
$45 would be for the child of 16
$35 would be for the child of 12
$30 would be for the child of 5

Examples: 1. What per cent of the total income would be apportioned to each member of the family?

2. Why should the amount or proportion for the father be more than that allowed for the mother?

Class II income allows for more attractive and greater variety of dress than Class I income. Considerable repair and remaking are necessary for a family living on this scale. The amount for each member of a family of five whose income is $2200 would be as follows:

Income, $2200; amount for clothing, 18 per cent = $396; of this amount:

$103 would be for the man (father)
$118 would be for the woman (mother)
$65 would be for the child of 16
$60 would be for the child of 13
$50 would be for the child of 6

Examples: 1. What per cent of the total income would be apportioned to each member of the family?

2. Why should the proportion for clothing for women be more than for men in Class II income?

In some cases one or more members of the family may require temporarily a larger proportion of the clothing allowance than is allotted, thus compelling other members to dress below their income in order that those members may have the additional allowance to meet their need for fashionable clothing.

Class III income would allow for excellent qualities of clothing, both in regard to durability and style. The selection should be made so as not to include extremes in styles. The better the quality of clothing, the less sewing and repairing required.

The amount for each member of a family of five with an income of $4000 would be as follows:

Income, $4000; amount for clothing, 20 per cent = $800. Of this amount:

$200 would be for the man (father)
$250 would be for the woman (wife)
$150 would be for the child of 15
$110 would be for the child of 12
$90 would be for the child of 8

Example: 1. What per cent of the total income would be apportioned to each member of the family?

Division of Budget. A recent circular issued by the Department of Agriculture at Washington shows that $12\frac{1}{2}$ to 20 per cent of the present-day income is being spent by the average wage-earner and his family for wearing apparel.

It may surprise many to know that there are thousands of people in this country, particularly families of five or more of the working class, who are clad with warmth and decency on $12\frac{1}{2}$ per cent of their income, due to the thrifty habits of the woman of the family. On the other hand, those who desire to keep abreast of the fashions and who dress with some degree of elegance will spend more than 20 per cent of the income. It is in this respect that the greatest difference appears between the families of the comparatively poor and the families of the well-to-do.

Of the percentages set forth by the Department of Agriculture the following apportionments are made:

70 per cent goes for outer clothing (coats, suits, sweaters, dresses, blouses, trousers, hats, caps, footwear, furs).

20 per cent for underclothing (underwear, corsets, chemise, suspenders, garters, nightdresses, bathrobes, etc.).

5 per cent for accessories (collars, cuffs, ties, handkerchiefs, scarfs, veils, umbrellas, etc.).

5 per cent for care and repairs (laundry, renovations, etc.).

Importance of Women's Point of View. Usually men earn the money and women spend the greater part of the income. Statistics show that women spend 85 per cent of the money spent in America annually. Women also save 90 per cent of the money

saved. The woman handles the bulk of the family income, and what can be shaved off expenses represents the family savings. That is why most of the saving is done by women. American advertising is directed primarily to women, because it is conceded that, even in the purchases of a man's own personal belongings — for instance, his suit of clothes — she is often the controlling factor. Many men are too busy making money to worry about the details of spending it.

Charge Accounts. Many retail stores sell to their customers on charge accounts, and others sell only for cash. Some firms feel that the increased volume when charge accounts are allowed offsets the loss and expense of caring for them. Of course, if the volume of business is the same, it stands to reason that a house that sells for cash can sell as low as 6 per cent cheaper than a competitor who has large charge accounts.

A high-school girl takes an inventory and finds the following:

Articles	*On Hand*	*Needed*	*Approx. Cost*
Coat	3 (winter, spring, rain)	3	$51.00
Hat	2	3	15.00
Gloves	1	1	4.00
Stockings	4	4	8.00
Sets Underwear	4	2	12.00
Slips	4	2	6.00
Dresses	5	3	40.00
Blouses	2	–	2.00
Skirts	1	–	1.00
Sweaters	1	1	4.00
Gym. Middies	3	1	3.00
Gym. Bloomers	1	–	1.50
Gym. Shoes	1	–	.85
Pocket-books	1	1	3.00
Galoshes	1	1	3.00
			$154.35

What suggestions have you to make as to new purchases?

EXAMPLES

1. What part (expressed as a common fraction) of an income of $3800 is used for clothing if the amount spent is $565?

2. What part (expressed as per cent) of an income of $2200 is used for clothing if the amount spent is $418?

3. A family of four has an income of $3100, and spends $496 for clothing; what is the percentage?

4. A family in a manufacturing community has an income of $1913.86 and spends $189.94 for clothing; what is the percentage?

5. A professional woman living in a large city has an income of $3660 and spends $530.90 for clothing; what per cent?

6. Is it possible for a family of five people living in a manufacturing community to live on $200 a year for clothing if the income is $1500? Prove your answer.

7. If 65 per cent of the average workingman's income is spent for shelter, warmth, and food, what amount is spent if the income is $2750?

8. A family spends $199.50 for clothing; what per cent of the income of $1512 is used?

9. A clerk earns $26 a week for 42 weeks, and in this time spends $296 for clothing. Is she living within the proper allowance?

10. A salesgirl earns $19.50 a week. She spends $212 a year for clothes. Is she living within her income?

11. A girl earns $15 a week and pays half of it to her home. She has two car fares (5 cents each) and 28 cents lunch each day. How much should she spend on clothing each year? How much has she for spending money each week? Should she save any money?

12. Which girl is better off financially, one earning $12 a week as a housemaid or one earning $17 a week in a store? Would their clothing budget be the same?

13. If $375 is spent for clothing from an income of $2500, what amount should be spent for (*a*) outerclothing, (*b*) underclothing, (*c*) accessories, (*d*) care and findings?

QUESTIONS

1. Why is clothing an important item in the cost of living?

2. Explain some of the reasons why we should plan the expenditure of our income very carefully.

3. (*a*) What is a budget system of spending our income? (*b*) State some of the advantages of a budget system of purchase of clothing.

4. What is meant by (*a*) family income, (*b*) individual source of income?

5. What is (*a*) income and (*b*) expenses?

6. Name some of the sources of income and also some of the disbursements of the average family.

7. Name some of the points to be considered in planning a budget.

8. (*a*) How is one's income usually expressed? (*b*) State how the amount he spends for clothing may be expressed as part of the income.

9. What are the divisions of the family budget?

10. In what way will the clothing budget of a family differ from the individual?

11. State the advantage of a budget.

12. What are the limits of expenditures for clothing (*a*) for a "tightwad," (*b*) spendthrift, and (*c*) conservative person?

13. (*a*) What is meant by the standard of living? (*b*) Is it a fairly constant standard? (*c*) Why is it difficult for one to conform to a lower standard of living?

14. What principles govern the percentage of income spent for clothing?

15. State the proportion of income for clothing for the (*a*) unskilled worker, (*b*) skilled worker, (*c*) professional man and business man, and (*d*) high-grade professional and business man.

16. How is it possible for the family of the unskilled worker to dress on the small sum of $240?

17. How will the clothing of the unskilled and skilled workers' family differ?

18. Compare the clothing budget of the family of the skilled mechanic and the professional man.

19. What is the percentage of the clothing budget spent for (*a*) outer clothing, (*b*) underclothing, (*c*) accessories?

CHAPTER XIV

GARMENT CONSTRUCTION

A costume or garment is constructed by cutting the fabric into parts according to a pattern which fits the human form; then the different parts are joined together by sewing.

The average business woman purchases her clothing ready-made. A half century ago clothing was made by dressmakers. Since women have gone into business, home sewing has nearly disappeared because women have a feeling that they can buy their dresses ready-made for less than the cost of materials at retail. Hence, there has developed the great business of making and selling women's ready-made clothing.

Statistics show that until 1920 the sales of ready-to-wear merchandise were about equal to the sales of goods by the yard; but since 1920, the buying trend has been decidedly in favor of the ready-made and decidedly against the piece materials.

There is a large number of women in small communities, and in larger communities a similar class of discriminating women with limited incomes, who are not and cannot be satisfied with the ready-to-wear apparel which is within their means. Many mothers living on farms, in villages, and towns are making different kinds of garments at home for the various members of their families. Home sewing is chiefly devoted to certain garments — house dresses, summer wash dresses, aprons, and nightgowns.

The larger the community in which a woman lives, the less sewing she is likely to do. Even the ownership of sewing machines falls off as the community grows. But the size of the family and its income generally determines the number and kinds of garments made at home. The largest percentage of women making the most of the garments listed are in families

with $2000 to $2999 annual income. Despite difficulties in fitting and in obtaining becoming and practical designs, home sewing is pursued because of economy.

Those engaged in making their own clothing should know the methods of making apparel and the principles underlying its construction. Training centers should know the most economical methods of teaching the home-dressmakers how to produce stylish and sensible apparel.

Relation between Style and Costume. We have seen in a previous chapter that the creating of clothes is an art that requires much skill. It involves a study of the human figure, as a knowledge of its lines is necessary in order to correlate them with the lines of one's dress. Years ago, people wore clothes because style dominated the situation, but today one dresses for individuality — to make one look attractive. We now choose clothes that have both style and individuality.

The thought that should influence a dressmaker or designer is how to make the wearer more beautiful. In planning a costume we should consider it as a whole; that is, first the kind and type of dress for the wearer, then the details of the design, trimmings, etc., in relation to the whole. This carries out the idea of proportion in the parts and the whole, but the similarity of parts should not be such as to make it monotonous.

If we look carefully at a costume, we shall find two distinct outlines: (1) the outline of the whole, sometimes called lines of the costume, which form the *structural design*, and (2) within the dress other smaller outlines or lines formed by the collar, panels, yoke, vest, tucks, and other trimmings, which we call the *decorative design*. While the outline of the exterior of the costume changes, influenced greatly by style, the trimmings are little influenced by fashion. So that, regardless of the general style, we can always use trimmings so as to make the dress more becoming to our figure.

The parts or divisions of the costume should be placed in relation to the structural parts or areas of the body.

The decorations should be placed at points of support or of articulation of the body.

Decorative design is the enrichment of structural design, and should naturally grow out of the structure and seem to be part of it. It is very desirable that the design should be conventionalized and reserved.

Designing. Designing of clothing may be done in one of three ways: (1) making drafted patterns, (2) draping on the form in muslin or paper, (3) modelling on the living or dress form (without cutting) the material that is to be used.

Patterns. Patterns fall into two classes — drafted and commercial or stock patterns. Drafted patterns are made to order, using the individual's measurements. Commercial patterns are manufactured by pattern companies such as McCall, Butterick, Pictorial, Excella, Vogue, and others.

Commercial Patterns. Clothing made at home is usually constructed from commercial patterns. These are made as follows:

(1) Experts and stylers select 15 or 20 out of a number of costume illustrations for sizes 14–16, and 36, 37, 38, 39, and 40. Sizes of misses are expressed in ages, while the style sizes of matrons are expressed in inches.

(2) Then the costumes for the illustrations selected are made on the forms in unbleached muslin (construction 72 × 72) that will not stretch.

(3) After the costume has been made on the form, marks and notches are placed on the muslin.

(4) The costume is then taken apart and laid on a table and a pattern cut for it on specially stiff, thick manila paper.

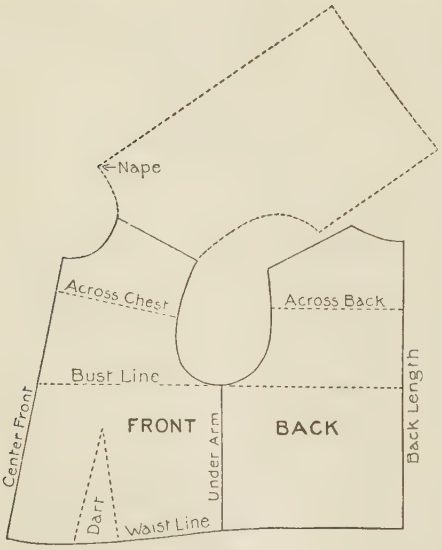
(5) From this stiff manila paper pattern, called the master pattern, tissue paper patterns are cut.

(6) Then from the master draft or pattern other sizes are graded. There is a definite relation between the parts of the body in a normal figure. The measurements of the adult, normal woman's figure are fairly constant, and there is a definite relation between them, excepting the width of bust and the length of the back. If we know the width of the bust and the length of the back, the other

dimensions of the normal figure may be determined from the following equations:

1.	Waist circumference	$\frac{5}{6}$ of bust circumference
2.	Width across $\frac{1}{2}$ of back	$\frac{1}{5}$ of bust circumference plus $\frac{1}{4}''$
3.	Width across $\frac{1}{2}$ of chest	$\frac{1}{5}$ of bust circumference
4.	Height of back shoulder line	$\frac{7}{8}$ of back length
5.	Height of front shoulder line	Equals back length
6.	Underarm	$\frac{1}{2}$ of back length
7.	Nape to front waist	Equals back length plus $6\frac{1}{2}''$
8.	Throat to front waist	Equals back length plus $\frac{1}{2}''$
9.	Height of darts	$\frac{2}{3}$ of underarm — measuring up from the waistline.

The above relations or formulas or equations are used in grading patterns. For example, if one has the measurements of a normal 36, then the measurements for 38 may be obtained from the above equations.



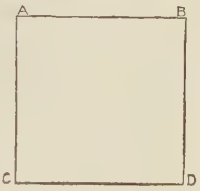
PATTERN

The disadvantage of a commercial pattern from a style or artistic point of view is that it is not original, and there are many copies. However, provision is made in many patterns for changes to meet the needs of the individual.

In selecting a pattern we should choose very carefully, considering (*a*) the use of the garment, (*b*) figure, (*c*) age, (*d*) size, (*e*) material, (*f*) cost, as described in the previous chapters.

Before cutting a pattern in material, pin up the pattern and test it, planning for all alterations in it before cutting, then consider the number of pieces, seam allowances, notches for joining, perforations indicating grain, etc. The directions and diagrams on all patterns now show the most economical way of cutting the material, and it is wise to follow them.

Drafted Patterns. Most manufacturers of medium-priced clothing design by means of a pattern or draft. In preparing a drafted pattern it is the usual practice to represent the fabric by a rectangle, thus:



This rectangle or field is lettered *A*, *B*, *C*, *D*, in which *AB* represents the selvedge. The lines *AB*, *BC*, *CD*, and *BD* are called *construction lines* and are used as a basis for most of the measurements of the draft. Within the rectangle, the lines of the garment are made, that is, lines for cutting the fabric into parts are marked. Sometimes the lines of the rectangle are black and the lines of the garment are of a different color — red or blue.

The lines or outlines of the parts of the garment are marked in the rectangle and called a *draft*. The draft shows the (*a*) form of the garment, (*b*) exact amount of material, (*c*) direction of the selvedge, (*d*) different measurements from point to point, (*e*) fold of the material.

The pattern is different from the draft because it is a model (in either paper, muslin, or other cheap material) of the garment. The pattern may be in the flat, like a paper pattern, or it may be made up by means of tacking or pinning, in order to give a better idea than in the flat of the appearance of the garment, and also to show how the different parts of the garment are put together. The pattern should be handled very carefully and folded properly when not used.

Every season the manufacturers obtain a series of measurements for making a normal costume of this kind. These

measurements are decided by the manufacturers after careful investigations of the style tendencies and measurements of the normal figure. These measurements are placed on manila paper and cut into sections corresponding to the cuts of the fabric to be made into a costume. Then many layers of cloth are placed together with the pattern on top and the fabrics cut by an electric knife. Great care must be exercised in placing the pattern so as to obtain the largest number of cuttings from the width of the cloth.

Then changes are made in the pattern for the abnormal figure, such as the short, stout figure, by either adding to or reducing the size of the pattern. Such a method is called the block system of garment designing.

Draping. The third method of making costumes is by draping. Before describing this method it may be well to describe draping in detail. The history of costume in previous chapters shows that clothing may be either held off from the body, as in the case of hoop skirts, or allowed to hang by its natural weight over the body. The latter is called draping. The former method is desirable when the style calls for a special shape for the clothing, that is, when it does not conform to the artistic shape of the human form.

The method of draping is used when we wish to bring out the artistic side of the human form and also increase its attractiveness by beautiful folds and curves in the cloth as it flows over the form.

We know that costumes may be made very artistic by allowing the fabric to hang naturally and gracefully. The art of draping comes to us from the early Greeks, and this type of dress shows the human form to best advantage.

The supports of clothing for draping are of two kinds: the principal and secondary supports. The principal support is one from which the drapery hangs, such as the shoulder. A secondary support is one produced by a projection or eminence of the body which tends to push the drapery out, more or less.

The way a fabric drapes on the human figure is governed by the number of folds, which depend in turn on (1) the method of arranging the cloth and (2) the kind of support given, but chiefly (3) on the texture of the fabric itself. To illustrate: A stiff or thick cloth like taffeta will, of course, give broader masses and duller and fewer folds than a light silk fabric like crepe de chine.

Fabrics may drape in either long folds, few in number, which will give single lines, or in many folds, which will give irregularly waved lines more nearly parallel in direction.

Draping is an art. A drape may be at the (*a*) back, (*b*) front, (*c*) side, etc. A drape at one side of the skirt broadens the silhouette and gives an unbalanced effect which causes us to overcome the effect by another drape on the other side. If there are too many drapes we fill the silhouette. A drape in the back suggests a bustle effect.

In draping it is wise to do as follows:

1. Determine the style tendency and adapt it to the requirements of the person, place, and time for which the garment or costume is desired. This requires that the outline and line of the costume with trimmings must be considered very carefully. A sketch or design should be made showing the costume.

2. Choose fabrics and materials that will give the desired fullness or softness, etc., as required by the style. If a heavier or more wiry fabric is used, a clumsy effect will be produced. On the other hand, a fabric too thin or soft will also give unsatisfactory results.

3. Then drape the costume either in muslin or the material that is to be used on the form.

4. The material in muslin should be marked carefully with notches so that the fabric of the costume may be cut.

Types of Forms. Patterns are made for model figures, hence we should bear in mind the difference between the form and the model pattern and make proper allowances. There are a few fashion-plate models, and they average about 5′8″ tall, and are

graceful and attractive in appearance. This type is the ideal from an artistic point of view, and most clothing is designed for this figure and, of course, becomes the fashion figure. Then there are some people tall and slender, others are tall and broad, and many are tall and angular, that is, with pointed features. On the other hand, we find a great many who are short in stature, with a stout figure, while others are short and thin.

To summarize, adult figures may be divided into the following types:

I. Fashion Plate Figure. — Tall and well-proportioned, about 8 heads in height.

II. Ideal or Average Type. — Fairly tall and well-proportioned, about $7\frac{1}{2}$ heads in height.

III. Tall Type. — (*a*) Tall, thin, (*b*) tall, stout, (*c*) tall, angular.

IV. Short Type. — (*a*) Short stout.

1. Short, with large bust and small hips and waistline.
2. Short, but stout all around.
3. Short, with flat bust and large waist line.

(*b*) Short thin.

V. High School Type (16 to 18 years of age) — About $6\frac{1}{2}$ heads in height, with girlish proportions — limbs and bust slightly developed.

While most people can be classified in the types described above, each type may differ, due to (*a*) flat or stout bust, (*b*) large or small abdomen, (*c*) large or small hips, (*d*) square or sloping shoulders, (*e*) long or short waist. These differences should be considered carefully when a costume is to be chosen, for in many cases these characteristics are accentuated to such a degree that the wearer will appear out of proportion.

Signs of Normal Costume. Each age period has an appropriate style, and for a person of one period of age to attempt to wear a costume designed for a person older or younger will not be to her best advantage.

Normal costumes are classified as follows according to the measurements of the normal figure at the period:

Infants,	Age	1 to 6
Intermediate,		6 to 10
Children,		10 to 16
Junior,		13 to 19
Misses,		14 to 20
Ladies,		any one with bust 36 to 46

Standard Form. The history of costume shows that the prevalent physique in any period is likely to be the artistic ideal of beauty at that time. Arguing from the art productions in our museums and galleries, one can say with much confidence that there are more slender women in the world today than ever before. One can even assume that they are in the majority and have impressed their type firmly upon the consciousness of all civilized mankind.

The human race is without question undergoing a physical change which enables people to retain their youth much longer than was formerly possible. A generation ago, girls were never supposed to wear a dress of originality or particular distinction. But today girls, or rather, women who are carrying their girlhood into their later twenties, constitute an important class with which the creative dressmaker has to deal. Because this increasing youthfulness of the world is making such an impression on the minds of mankind, the slender figure has become the criterion.

Dress designs can accentuate almost any physical peculiarity desired. Today we have one of the few silhouettes known in fashion history that emphasize slimness. Nearly all the styles of the past have been " buxom " styles. All the lacing, the bustles, the big sleeves, etc., of the Victorian era were dress devices to emphasize a generous build.

In 1930 it is just the other way. The dress silhouette which is most successful is the one which best accentuates slenderness in the slim and creates the illusion of slenderness in those figures which need modifying in order to attain the present-day ideal.

What constitutes a perfect feminine figure? The ideal figure differs for different periods of growth or age. First, there is the flat, boyish figure that is normal to girls in their early 'teens, sometimes spoken of as junior style or form. Then there is the slender, girlish figure that reaches its perfection in the late 'teens or early twenties, called misses' style or form. In this type, the bust and hips measure the same. The height is usually from 5 feet, 4 inches to 5 feet, 6 inches, and weight from 120 to 130 pounds. Other physical specifications are: Neck, $12\frac{1}{2}$ or 13 inches; bust and hips, 34; waist, 26; thigh, 19 to 20; wrist, 6 to 7; ankle, $7\frac{1}{2}$ to 8; calf, $13\frac{1}{2}$.

The figure of the mature young woman is naturally more developed than either of the two immature types just described. She has more right to claim the title of " perfect " than they have because her development is complete. Her bust measure ranges from 34 to 36 inches, and her hips are two or more inches larger than her bust measurement. The " perfect 36 " is an example of this full-blown type of beauty. The measurements of this type are: Height, 5 feet, 5 inches; neck, $13\frac{1}{2}$; waist, 26 to 28; hips, 38 to 40; bust, 36 to 38; thigh, 23; calf, $13\frac{1}{2}$; ankle, $7\frac{1}{2}$.

Overcoming Defects. The following suggestions will show how to appear normal in form. Persons with tall figures desire to look normal, or shorter than their actual size. In order to do this, their clothing should give an after-image of shortness and increase the width of the body. It is possible to make this type appear of average proportion by emphasizing horizontal lines and eliminating vertical lines in both the construction and decoration of the complete costume.

Ruffles, flares, shirring, etc., will add to the width and conceal the spareness of the figure. A small hat will tend to increase the height, hence large hats should be worn. Two-piece effects in dresses will tend to make the figure appear shorter.

The tall thin type is (*a*) taller than the standard figure, giving the impression that the head is too small for the body, (*b*) the horizontal measurements are less than standard, (*c*) the vertical measurements are greater than standard, hence one appears

awkward. It is possible by clothing devices to make this type appear shorter and stouter and approach the normal figure.

Look at the short thin figure and notice that she is (*a*) shorter than standard height, (*b*) the horizontal measurements are less than normal, (*c*) the vertical measurements are less than normal. This type, due to the small measurements and a normal head, gives the impression of a very large head. In order to take advantage of the smallness, the daintiness of delicate fabrics, colors, and trimmings should be the key-note in all her clothing.

The following devices will overcome the defects of the short, thin figure by giving an after-image of length and width, thus giving the impression of being taller and stouter:

a. Short, rolling collars, giving long lines.
b. One-piece dresses which fit loosely.
c. Vertical lines in panels and trimmings, which give both apparent length and width to the figure.
d. Materials of moderate stiffness, those of high luster, and plaids and large-figured designs.

The tall, stout figure will naturally command attention, hence, she should cultivate fine manners and speech in order to have dignity and poise. It is not desirable to attempt to make her look smaller to any great degree, but rather allow the tall stout form to remain and use the type of clothing suited to stateliness. Neatly tailored frocks, with vertical lines, will bring out poise and dignity. In addition, the principal clothing devices that will do this are:

a. Proper length of skirt — not too long or too short — so as to prevent one from appearing ungainly.
b. Youthful clothing will not add to form.
c. Heavy, rich fabrics, both napped and smooth, may be used.
d. Distinct fluffy trimmings do not belong to the large, but to the small woman.
e. Both vertical and horizontal lines may be used.

Look at the short, stout person and notice that (*a*) the height is shorter than normal, (*b*) the horizontal measurements are greater than standard, (*c*) the vertical measurements are less than the standard. Since the difference from the standard is due to greater thickness and bulk of the form, this type is difficult to make appear normal with clothing devices.

The following devices should be used:

a. Vertical lines, to give an after-image of elongation.
b. Since the body is bulky, attention should be drawn away from it and to the normal part of the figure — head and form — by lines, colors, etc., and proper headdress.

The short, stout figure is under the normal size and is about 5 feet, 4 inches in height. The hips are larger and the waist shorter in proportion to the size. The short, stout styles are found most often in women of advanced rather than early years. Sometimes the shoulders are round and the bust flat and the abdomen large. The short, stout sizes are as follows: 37, 39, 41, 43, and 45.

The half-size styles are designed for women of smaller size, built like the misses' figure, but with larger hips and arms. The half-size figure is about 5 feet, 3 inches in height, with larger hips and shorter waist in proportion to the height. The half sizes are as follows: $14\frac{1}{2}$, $16\frac{1}{2}$, $18\frac{1}{2}$, $20\frac{1}{2}$, etc.

The length (seven heads) and measurements of the high-school girl (the adolescent period) is smaller, particularly at the (*a*) hips, (*b*) bust, and (*c*) shoulder, than the mature figure of the woman. In fact, the dimensions of the shoulder of the high-school girl are larger than the hips, but as she develops the hips become greater in width than the shoulder.

Defects in Type. We mentioned above that each type may have a defect or weakness that must be corrected. To illustrate: The flesh is often unevenly distributed over the body, particularly the bust, hips, and abdomen. If there is a scanty distribution, then the bust appears flat, while if there is an

overabundance, we have a "full bust," large abdomen, and large hips.

These defects may be corrected as follows:

a. Ruffles and other trimmings that will increase the fullness of the waist, will give an added fullness to the bust.

b. The large bust may appear smaller by proper use of lines and panel effects that give an after-image of elongation at the bust.

Sloping and Square Shoulders. In order to overcome the sloping defect, clothing devices should be used to bring up the tip of the shoulder and make it appear square.

The shoulders of many people are frequently very prominent, due to either a pronounced projection or a prominent squareness. Round-shouldered form is applied to those with shoulders that slope or project; persons with a long, thin neck will usually have round shoulders. Square-shouldered is applied to those whose shoulders are very prominent, with a distinct square effect.

Since the shoulders occupy a conspicuous part of the form, these defects should be corrected by the following clothing devices:

a. Properly cut — that is, the appropriate cut for sloping shoulders — collars, capes, etc., will modify or counteract the appearance of the sloping line of the shoulders.

b. The prominent line of squareness of the shoulder can be corrected by loosely fitted drop shoulders (such as raglan sleeves), which tend to bring down the tip of the shoulder.

The Waist. Quite often the proportions of the back and legs are not normal. That is, the back may be too long in proportion to the legs, giving a long-waisted effect, or the back may be too short in proportion to the legs, giving a short-waisted effect. Clothing devices may remedy the above variation; for the short-waisted, by giving an after-image of extension from the skirt to the waist by the use of panels.

The long-waisted effect is corrected by raising the waistline and letting the skirt hang smooth and straight, and by creating after-images of elongation in the skirt by vertical trimmings.

Special Defects. The following modifications of clothing may be used to correct special defects:

a. For the long-waisted figure wide belts and sashes should be used, and a wide belting on the skirt. Horizontal lines emphasized on the waist will give a good effect, and the waist should be full in cut, with yoke, bertha, or broad collar.

b. The short-waisted type of figure should avoid a waist and skirt of contrasting color and material. One-piece dresses are preferable, and a vertical effect in the blouse, produced by using panel effects, seams, trimmings, and long collars will help to minimize the defect. Narrow waistline finishes are also becoming.

c. The woman with large hips should use a one-piece dress, belted loosely at the waistline. The waist may be slightly bloused if it is narrow in proportion to the hips. Pockets, trimmings, fullness, etc., should be avoided, as they add bulk at the hip line. Coats and peplums which end at the hip line and skirts that are too low are also unflattering to this type of figure.

d. A large bust may be modified in line by a low-bust corset and brassiere, and by breaking up the blouse of the costume by use of a surplice closing or by a vest.

e. For the flat chest broad collars or berthas, fichus, and fluffy fronts in blouses are used.

f. Round shoulders may be made to appear "square" by avoiding cape collars and those that give a round effect, and by placing the shoulder seam a little back of the normal shoulder line. Square shoulders may be softened by the use of round necklines or rolling collars, rather than square necklines and those with angular lines. Kimono sleeves and drop-shouldered effects also tend to lessen the angles.

g. Short, fat arms appear to better advantage in long sleeves which fit easily over the arm, or, if shorter ones are desired, they should cover the elbow. For long, thin arms one should choose sleeves that are full or flaring, and sleeve lengths that are broken by cuffs or horizontal trimmings.

h. The long, thin face and neck are flattered by broad necklines, rolling or high collars, and scarfs and furs that tend to shorten the neck. The hair should be worn rather low, and one should select hats which turn down.

i. The woman with a broad face and short, thick neck should wear collarless dresses, V-or U-shaped necklines or angular lines, hair rather high on the head, and hats which are not too broad and that turn up slightly to add height.

j. The following devices will overcome the defects of the tall, slender figure by giving an after-image of width that will make one look shorter: (1) Broad collars, yokes, and frills, (2) full and flaring sleeves, (3) wide belts and decoration at waistline, (4) overblouses and peplums, (5) full blouses and full skirts, (6) stiff materials, (7) double and triple skirts.

k. The following devices will overcome the defects of the tall, broad figure by not calling attention to the size of the form: (1) Long collars and surplice styles, (2) narrow belts, (3) sleeves that fit easily, (4) soft, inconspicuous belts, (5) decorations should be kept toward the center of the figure, (6) vertical lines, (7) soft materials.

l. The following devices will overcome the defects of the tall, angular figure by giving an after-image of fullness: (1) Rolling collars with round lines and those that do not reveal the bones in the neck, (2) loose sleeves, (3) curved lines in the costume which soften the straight, severe lines of the figure, (4) materials of moderate softness, (5) dresses that are not perfectly flat and tight across the bust.

m. The following devices will overcome the defects of the short, stout figure by giving an after-image of lengthening and therefore making one look taller: (1) Flat, narrow collars or no collars, with U-shaped or V-shaped neckline, (2) surplice style, (3) long tunics, (4) one-piece dresses, (5) long, plain-fitting sleeves, (6) straight, vertical lines for costume and decorations within it, (7) narrow, inconspicuous belts, with waistline broken by vest or panel effect, (8) materials that are soft, full finish, and plain color, (9) neutral colors, (10) long strings of beads.

How to Cut Cloth. After the design has been made, the cloth should be prepared for cutting. The cloth may be cut or folded (*a*) lengthwise, (*b*) crosswise, or (*c*) on a true bias.

A piece of cloth is laid out very carefully by the mill designer to conform to certain specifications. While cloths may differ in

details, the general structure of fabrics follows a uniform plan. To illustrate: All fabrics are finished at the outer edges with a woven border called a *selvedge*.

The warp thread is stronger than the filling, because there is more twist in the yarn. Since there is more " pull " in the length than in the width of fabric, the warp is placed so as to support the additional pull. The filling threads, having less twist than the warp threads, are more elastic, and will stretch.

Material is not cut crosswise, because the fabric is more elastic crosswise than in any other direction and will naturally stretch out of shape.

The selvedge threads should be removed from the fabric before cutting it for the garment, otherwise the garment will have a puckered appearance, due to the fact that the threads of the selvedge are more closely woven than the rest of the fabric. The reason the selvedge is more closely woven is to withstand the strain of holding the fabric under tension while it is passing through the steps of manufacturing.

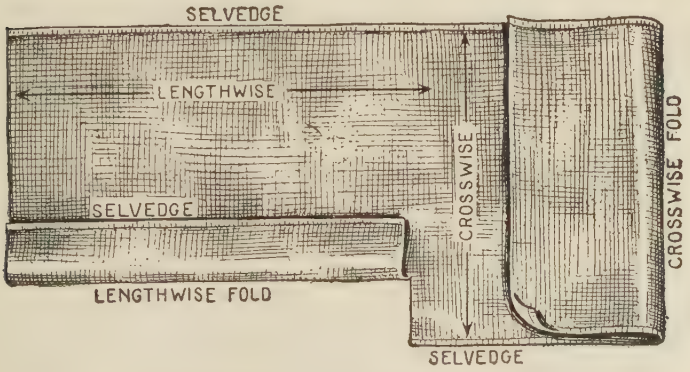
Patterns or parts of fabrics that are expected to fit tight, as the seat of the trousers, neckbands, etc., and yet must have elasticity, are cut on the diagonal direction of the length, called the *bias*. The strength of the bias pattern is not quite as great as that cut on the length, but it has more elasticity, due to softer twist in the filling; hence is strong, yet has considerable elasticity or " give " — stretch.

Grain of Cloth. In finishing the manufacture of a fabric it is brushed or ironed in the direction of the length, consequently when stroked in one direction it will appear or feel different from what it would if stroked in the other. When it feels smooth, the hand is said to move " with the grain"; the reverse direction is called " against the grain." A fabric has two sides: right and wrong. The right side has been finished; that is, it is the side of the fabric that has come in contact with finishing machines.

Care of Materials in Cutting. There are certain fabrics like broadcloth, velvets, etc., that have a distinct nap or pile. In cutting a costume or suit out of these fabrics, it is necessary to have the pieces put together so that the grain will run in the same direction, otherwise the pieces will show different shades, due to difference in reflection (luster).

In panne velvets, in which the pile has been flattened, the nap should lie down. Broadcloths should have the nap running down, otherwise it will roughen in wearing. Some velvets have a straight pile. These must all be cut the same way.

Other nap or pile fabrics should be cut with the pile running up, so that the whole richness of color will be brought out. Sometimes it is possible to have attractive effects by combining two pieces of fabrics with different grains.



LENGTHWISE AND CROSSWISE FOLDS

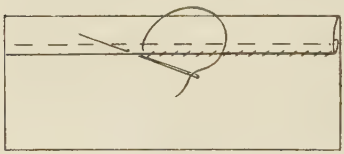
Unless the fabric is cut with reference to the grain, the finished garment will not be perfectly balanced. If, instead of folding the material directly on a lengthwise or crosswise thread, it is folded slightly on the bias, or carelessly folded, the center front or back will always twist to one side.

Attention must be paid to the pattern or design of the cloth.

Plaids may have up and down or right and left stripes. Stripes may vary in arrangement. Floral designs may be found running in one direction and are naturally placed growing up.

Some materials, like chambray and plain taffetas, are woven with no distinct right or wrong and no distinct up and down. The sheen may be different, so care must be taken to place all pieces on the same side.

Silks and woolens, when folded, are folded with the right side inside the fold. When they are not folded, the inside of the bolt is the right side. Cottons and woolens when folded are folded with the right side out. When they are not folded the right side is out. The selvedge is smoother on the right side than on the wrong side. In twilled materials, such as serge and diagonals, the twills run downward from left to right on the right side of the materials.



HEM

The fabric is cut according to the pattern, and the rough edges hemmed to make them attractive, and the parts are held together by seams involving the use of stitches.

Torn Cloth. When cloth is torn or cut, there are usually loose threads projecting from the cut portion of the warp or filling, and this makes the cloth unattractive. The cut or torn edge is called the raw edge of cloth. In order to make the edge attractive, it is folded over very evenly from one-eighth to a quarter of an inch. This portion of the cloth that is folded is called a *hem* (see page 355). The junction of the two pieces of cloth held together by sewing is called a *seam*, which is described in detail on page 361.

A *plain seam* is usually used in joining pieces of cloth for dresses and aprons and consists of joining two raw edges with a row of stitching. This stitching is carried a definite distance from the edge of the cloth.

A *French seam* is used for underwear, lingerie, and waists, and is so folded that the raw edge is covered.

Equipment. The equipment and supplies used in making a costume are (*a*) thimble, (*b*) scissors and shears, (*c*) tape-

line, (*d*) pins and pincushion, (*e*) emery, (*f*) tailor's chalk, (*g*) needles, (*h*) yard stick, (*i*) dress forms, (*j*) tailor's squares, (*k*) tracing wheels, (*l*) iron, (*m*) ironing board, (*n*) sewing machine. Other supplies convenient for the work-bag are stiletto for making eyelets and bodkins for inserting ribbons in garments.

Thimble. A covering for the protection of the finger in the operation of sewing, of various forms, has been in use since the times when needlework first began to develop into an art. In very early times this protection consisted of stiff, heavily-sized linen wrapped around the finger, and was called a *finger linge.*

Thimbles have been discovered in the Egyptian catacombs in mummy cases antedating the Christian era fifteen to eighteen centuries. Consequently how old the thimble is, or by whom it was invented, are questions that can never be answered.

In the ordinary manufacture of thimbles at the present day, thin metal plates are placed in a die and punched into the proper shape. Dies of different sizes are used. The thin plates of sheet iron are first cut into pieces about two inches in diameter. These are heated red-hot and struck with a punch into a number of holes, gradually increasing in depth to give them the correct shape. The thimble is then polished, trimmed, and indented around its outer surface with a number of holes by means of a small wheel. It is then changed into steel by the cementation process, lined, scoured, tempered, and brought to a blue color.

Silver thimbles are usually made of solid silver, though cheap qualities are sometimes plated or washed. Celluloid and rubber thimbles are moulded. The best gold thimbles are made in Paris. These are made of a thin foundation of steel and lined with gold, which is introduced and attached to the outside steel by means of a mandrel. Gold leaf is then attached to the outside by great pressure, the edges of the leaf being fitted in and held by small grooves at the base of the thimble. The article is then ready for use. The gold will last for years, while the steel never wears out.

Scissors. Scissors are tools for cutting threads and fabrics and have two cutting edges that are brought together by a handle consisting of a large and a small elliptical opening at the end of the

blades; the small opening is used for the thumb and the large opening for the first two fingers.

Scissors, which range from three to five inches long, are needed for clipping threads and for all fine cutting. Shears, which are six inches or longer, are required for cutting out materials or for general use. The work of cutting can be accomplished quicker with shears about nine inches long. The best shears are known as the " bent " shears. These are constructed in such a way that they will not raise the material from the cutting surface, and will cut two or more layers of material without slipping.

Buttonhole scissors are very convenient for cutting buttonholes, and are necessary when constructing children's or infants' clothing.

Scissors are made of steel, which is a form of pure iron. There are various grades of steel, and the best grade will hold the cutting edge the longest.

Tapeline. The costume or garment must be fitted to the person, that is, correspond to its measurements, therefore it is absolutely necessary to measure the form. The measuring is done by means of a narrow piece of firm cloth that will not shrink or expand. The measurements run in eighths from one to sixty inches.

Pins. Pins, like needles, should be carefully selected, as large pins on fine fabrics will leave holes that will spoil the appearance of the garment. Experience shows that steel pins one-half inch in length are best for plain needlework. Pins should be kept in a pincushion, as they are cleaned in the process of drawing them from the cushion. If kept in boxes, they are apt to rust or tarnish and stain the fabrics.

Pincushion. The most convenient type of cushion is one that can be tied to the top of the wrist by tapes. The filling of all cushions should be of wool.

Emery. An important equipment for the sewing basket is an emery bag for polishing needles. It consists of a red denim bag filled with emery, a very hard material used in polishing metals.

Tailor's Chalk. Tailor's chalk is essential as a marker for use on materials that will not show the marks with a tracer or when the use of the tracer is not advisable. This chalk is inexpensive and comes in white, blue, and red.

Needle is a small, sharp-pointed instrument, either straight or

curved, for carrying a thread through a woven fabric, paper, leather, felt, or other material. The most common form is that of a slender pointed bar pierced with an eye for the thread, either at the blunt end, or at the point, or in the middle. The first form is that of the ordinary sewing needle; the second, which is practically an awl with an eye at the point, is that of the sewing-machine needle; and the third form, which is made with a point at each end and an eye in the center, is employed in the Swiss embroidery machine. Sewing needles are commonly made of steel and range in size from coarse darning needles to fine cambric needles, and besides the distinction of purpose and size are classified according to the shape and character of the eye, the length, the sharpness of the point, and the style of finish, as drill-eyed, golden-eyed, sharps, betweens, blunts, ground-downs, etc.

The needle is by no means a modern invention, but has been in use from prehistoric times, probably before the era of woven fabrics. The first needles were clumsy implements, made of wood, fish-bone, bronze, ivory, and even of gold, though these materials have long since been superseded by steel. Steel needles seem to have been introduced into Europe by the Moors, though it is not probable that they were the inventors, since the Chinese claim to have used them from time immemorial. The first mention of needle-making in history as an organized industry is in connection with the town of Nuremberg, Germany, in 1370.

Needles are made from steel wire ground to a point, and then the eyes formed by perforating two holes close together, forming really two needles. The needles are then hardened and tempered to give the desired strength and elasticity.

The variety of needles manufactured for sewing by hand and machine, for packing, for upholstery, embroidery, and leather work, bookbinding, sailmaking, knitting, and for surgical purposes is very great, and demands many modifications in processes and appliances. For sewing alone there are said to be no less than 150 different styles and shapes used. Hand-sewing needles both in England and the United States are commonly quoted by manufacturers and jobbers at a given price per 1000. Originally they were made in but three styles: the first, short and rather blunt, with the point ground down to a roundish end, were known as

ground-downs; these are still used to a limited extent by tailors; the second style, somewhat shorter and sharper at the point, were termed *betweens;* the third style, known as *sharps,* were made longer and narrower at the point. These old-time forms still continue to be the ones most used for ordinary sewing. *Millinery* and *straw* needles are still longer in corresponding sizes than any of the foregoing varieties. The so-called *crochet* needle is a long, slender hook used for making crochet work.

Sewing-machine needles are awl shaped, with the eye near the point. They range in length from two to three inches and are of two general kinds: those with the round shank and those with the flat shank. The *tape* needle is a heavy, flattened variety from three to four inches in length, with a blunt point and provided with two eyes, one of which is long and narrow for holding a length of tape, the other large and round for containing a cord or coarse thread. *Upholsterer's* needles are made of various shapes and lengths, according to the class of work for which they are intended. For deep sewing they are made straight, and either pointed at only one end, or at both ends; while for tufting a curved or half-round needle is employed. Upholsterer's straights range from six to sixteen inches in length, the curved from two to five inches in length.

Needles for ordinary sewing are graded according to size, the largest are 2/0. A medium-sized needle is No. 7 or 8. No. 10 is used for fine work.

Yard Stick. Cloth is sold by the yard and measured by a straight measuring stick divided into inches from one-eighth to thirty-six inches. This is called a yard stick.

Dress Form. Dress forms are used for draping the fabric or fitting the garment. The form is made of canvas filled with packing, with the dimensions of neck, bust, waist, and hips of a normal figure. There are forms for every size. Since the outline of the figure changes with the style, a set of forms must be made for each change of silhouette.

Tailor's Square. Since the dimensions on the form are taken on the perpendicular or horizontal lines, a tailor's square is used to lay out these measurements. The square consists of two unequal arms of wood at right angles, divided into inches and fractions of inches.

Tracing Wheel. The tracing wheel is a great help as an accurate

marker for seam lines and construction points. It should be of the best steel with sharp points and used only where the material will not cut.

Iron. The iron should be of medium weight with pointed end.

Ironing Board. The ironing board should be well padded, firm, tapering toward one end, and not too wide.

Sewing Machine. With the spread of democracy after the War of Independence and the French Revolution came a genuine desire for more and better clothing for the masses. Up to this time the upper classes were the only ones that could afford frequent changes of good clothing.

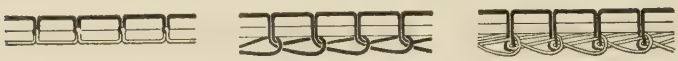
In the early part of the nineteenth century, all sewing was done by hand, usually at a rate not exceeding 30 stitches per minute for each person or operator. With the desire of people for more clothing there came a demand for greater production. The first power machine was invented in 1790, but was not a success. The first practical sewing machine was invented in 1830. Inventions and improvements have taken place until today we have a foot-power machine operated by a single person making 900 stitches per minute, or the equivalent of thirty people working on hand stitches. The power sewing machine, operated by a single person, makes 4000 stitches per minute, or the equivalent of 133 people hand sewing at once. The sewing machine is used for both plain and fancy stitching effects, in joining fabrics or parts of fabrics.

The principal parts of the sewing machine are (1) a stand or support for the fabric to be stitched, (2) a needle that moves up and down in penetrating the fabric with the thread, (3) a thread-carrying or non-thread-carrying implement moving under the support and working under the needle so as to form link threads, (4) an automatic device for feeding the fabric.

Sewing or stitching may be done by hand or machine. Hand sewing is more expensive, but it is very effective in certain parts of costumes.

There are two types of machines for sewing: (1) The double-thread or lock-stitch machine, which is the common sewing machine using two threads, and is valuable because it gives the same stitching on both sides, as shown in Fig. 1, and (2) the single thread or chain-stitch machine, which uses one thread and can be used only

for sewing on the right side of the cloth, as shown in Fig. 2, as the loops of the under side are not artistic.



1 2 3

MACHINE STITCHES

Showing the relation between fabrics and stitches. Note the horizontal line is the junction of the two fabrics. Heavy lines represent the stitches.

1. Double lock stitch 2. Single chain stitch 3. Two-thread chain

Notice in the above sketches that machine-made stitches consist of a line of link-like threads produced from one or more threads and spaced a definite distance apart. The distance between each link is considered as the length of a stitch. Each link is the end of one stitch and also the beginning of the next. A seam formed by a line of machine-made stitches, in order to be effective, must have strength and elasticity, and the stitches must not ravel or break when placed under a strain.

The common chain stitch, in Fig. 2, is formed by a single thread, which is first looped downward through the fabric. Then at a point a stitch-length distant the thread is again looped through the fabric and through the first-mentioned loop, and so on, thus producing a series of enchained loops on the under side of the fabric. A seam formed by this stitch embodies considerable elasticity and strength, and cannot be taken apart, although the last formed stitch is not locked, and a crosswise pull (which is a transverse strain) imparted to the seam will cause the loops to unloop from one another in progression along the entire line. The seam may also be destroyed, even if the ends of the seam are tacked, broken or skipped, by a side pull.

The lock stitch is strongest and is used on coats, suits, and dresses subject to considerable wear and tear. The best seam of the lock stitch is formed by a sewing thread which is twice the weight of the warp of the material to be sewed. A substantial seam should be one-sixteenth inch thick when the elasticity of the stitch is 10 per cent of the length without the thread breaking. It takes about $2\frac{1}{2}$ yards of thread to one yard of stitching.

Clothing is composed of pieces of fabrics stitched together. Since some parts of clothing are subject to more stretching than other parts, *i.e.*, armholes of a coat, it follows that the stitching in those parts must be elastic, in order to provide for the proper stretching. Hence the need of the stretching properties of stitches.

The single chain stitch stretches better than the double chain stitch because it is composed of a single thread, and therefore is not as rigid as a double thread. Of course, the material that the thread is composed of has much to do with its elasticity, as silk has six per cent elasticity compared to three per cent in ordinary cotton. Sea Island cotton with its long fiber has the greatest elasticity of all the cottons, and is used in making cotton thread. Italian silk has the greatest amount of elasticity, hence is used in making silk thread.

The single chain stitch is the safest and strongest for all goods that stretch: fabrics cut on the bias, knit goods, etc. As the seams of the stitches become thinner, the elasticity becomes less and less. Hence, thick seams should be used in portions of clothing subject to stretching.

The double chain stitch will not rip as does the single chain stitch, but has a rough, corded effect on the under side, due to the looping. As the name suggests, the double chain stitch has two threads side by side on the under part of the fabric. Compare this amount of thread with that required on single chain stitching, which is three and one-half yards of thread to a yard of stitching.

The single chain stitch can be pulled out by pulling the thread sidewise. The double chain stitch is formed by looping the thread on the under side of the fabric by a device called a looper, which acts like a finger device which loops the single chain stitch as shown.

Kinds of Thread. The size of the thread is very important. Since the thread is the fastening agent of the parts of the garment it should be a little stronger than the yarn of the fabric, as nearly as possible the size or thickness of the selvedge. To illustrate: The thread to be used on fabrics like ordinary coarse long cloth or calico should be about No. 50 cotton; for the medium grades of calico and gingham prints use No. 60 cotton thread; for fine fabrics like cambric and fine long cloth use No. 70 cotton. For making and reinforcing button-holes, a coarser thread than that used in the garment should be used.

Silk thread is graded by letters, the finest is marked 00, the next coarser is 0, then A, then B.

For sewing on hooks and eyes and making button-holes and loops on silk and wool, twist is used.

Thread is graded by numbers; 70 is medium, 100 and 120 are used for fine materials.

Cotton thread, when looked at under the microscope, has a slight fuzzy surface of projecting fibers which lie smoothly when brushed from the spool or stroked in the direction of the end of the thread, but is made rough when brushed in the opposite direction. One should exercise care in threading the needle with either thread so that the nap will not be raised, otherwise the thread will become knotty and difficult to sew with.

The length of the thread in sewing should be equal to the distance from shoulder to shoulder.

The end of cotton hanging from the spool goes into the eye of the needle, while it is the opposite end in the case of silk.

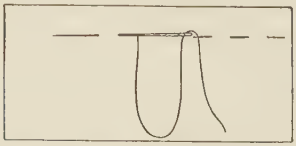
Cut the end of the thread diagonally.

Use no knots except for basting, gathering, and overcasting.

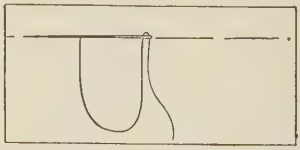
All plain sewing goes from right to left. All embroidery stitches from left to right.

Always cut the end of thread on material with scissors. Leave no ends in the material.

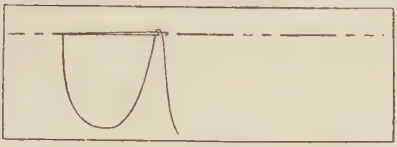
Stitches. In order to become efficient in dressmaking it is necessary to become proficient in making the stitches commonly used in the construction of garments. To determine when and where to use the several types of stitches, it is necessary to become familiar with the name, method of beginning, method of making, and finishing those most used.



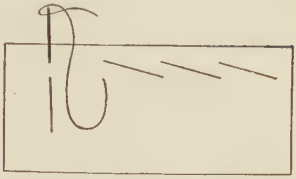
Even Basting. Used where there is strain in fitting garments. Spaces and stitches one-fourth inch in length.



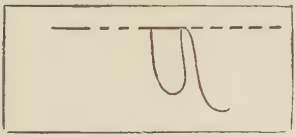
Uneven Basting. Stitches and spaces uneven in length. Space, one-eighth inch; thread, three-fourths inch.



Dressmakers' Basting. Made by taking alternately one long stitch, two short stitches, one-eighth inch. Used for seam guide for stitching.

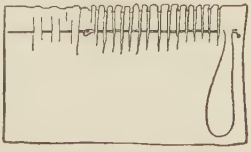


Diagonal Basting. Slanting stitches used to secure lining to outside material.



Running Stitch. Used where strength is not required; also for gathering, shirring, and tucking. Begin and end with a fastening stitch which, in each case, is composed of two back-stitches, small.

Gathering. Use an even running stitch for sheer materials, uneven for heavier materials, taking up on the needle one-half the amount passed over. The space to be gathered should be divided into equal parts, halves, quarters, and also the section to which it is to be applied. Use a knot and fasten it securely by two backstitches. It is usually advisable to put in two rows of gathers, so as to aid the gathers to fall into place more readily. After the gathering has been run in, pull up tightly, holding the top of gathers with one hand and pulling down with the other. With sheer material this will be all that is necessary. It will be necessary to stroke the gathers of heavier materials.

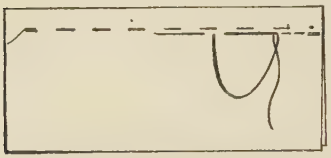


GATHERING

To stroke gathers, pull the thread up so the gathers are as close together as possible, and place a pin at right angles to stitches, and wind the thread around the pin in form of figure eight; then take a coarse needle and with the side of the eye push each little pleat under the thumb and press. Do not draw the needle down the material as this scratches the fibers, tending to weaken them.

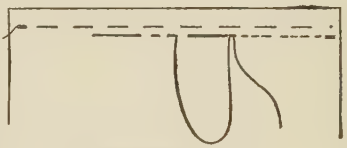
Backstitch. The backstitch resembles machine stitching on the

right side and an irregular stitch on the wrong side. It is used where strength is required in place of machine stitching. It is made by taking a short stitch on the right side and longer one forward on the wrong side; the thread comes out half-way between where the needle goes in and comes out. Use a fastening to begin and finish.



BACKSTITCH

Combination Stitch. The combination stitch is used where less strength is required than the back-stitch. It is quicker to make. It consists of two or more running stitches with a back-stitch. It is fastened with a back-stitch. The essential point of this stitch is that the needle and thread come out at the same place, but instead of pulling the needle out, the running stitch or stitches are taken immediately.



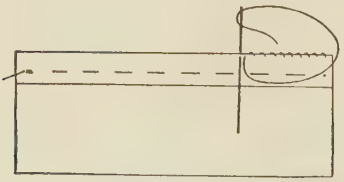
COMBINATION

One run and a back looks like the backstitch on the right side; the wrong side shows two stitches together and a space.

Two runs and a back.

Three runs and a back shows a single stitch then a combination of three stitches alternating; on the wrong side, a double stitch, then two single running stitches.

Overhanding. Overhanding is used where a strong, flat, invisible stitch is required for undergarments, mending, sewing on lace, etc. The pieces to be joined should be placed right sides together. Hold the material between the thumb and finger firmly, with the edges



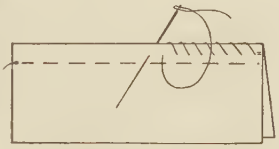
OVERHANDING

TOP VIEW

Showing beginning, joining of thread, and fastening of thread at end.

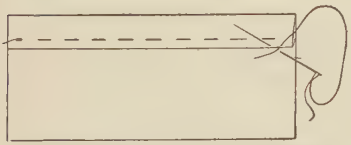
toward the top. Take the first stitch through the one fold nearest, leave a half-inch thread between the folds, sew over this through both folds of material. Pointing the needle toward you, take very shallow stitches close together, but not crowded. To join the thread, leave half an inch of the old thread between the two folds, put the newly-threaded needle into the hole where the old thread came out and sew down the two threads as in beginning of stitch. Finish the seam by sewing back over the last three stitches. You will have the cross stitches as in the illustration.

Overcasting. Overcasting is a slanting stitch used to keep the seams or parts of garments from raveling. The raw edges should be trimmed before overcasting. Use a fastening stitch or concealed knot, and work from right to left, keeping the same slant throughout. Do not draw the stitches or cut the material. The stitch should be one-half the depth of the seam (this varies with the type of material), the width of the stitches about twice the depth — one-quarter of an inch is safe. In bias seams, work with the grain of the material. Fasten the thread with the fastening stitch.



OVERCASTING

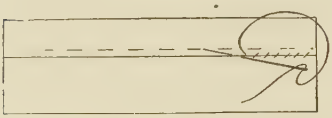
Hems. A hem is a fold used as a finish or as decoration on a garment. Hems may be narrow or wide according to need, but in all cases they must be accurately folded. Use a gauge. To fold a hem, turn one-eighth to one-quarter inch, according to the kind of material. If it ravels easily, one-quarter of an inch is necessary, but never more. Narrow hems may be creased and folded without basting. Wide hems must be basted accurately, using a gauge cut from cardboard with a notch in it indicating the width of the hem.



FASTENING STITCH HEMMING

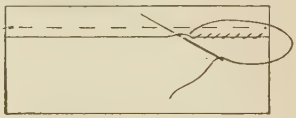
Hold the material with the hem basted in place, fasten the thread, as in the illustration, by slipping the needle into the fold of the hem, drawing the thread through, and tucking it under

the fold. Take a stitch to secure the thread and continue hemming. Hold the work over the first two fingers of the left hand, the fold of the hem, where you are hemming, toward the right. Keep the stitches even, taking the stitch through the edge of the fold.



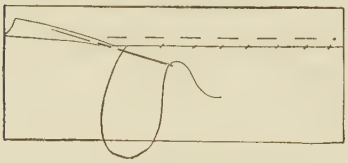
HEMMING

Stitch as straight as possible on right side.

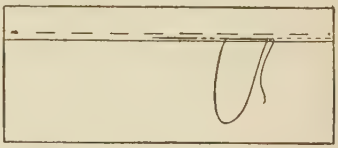


BLIND HEMMING

Blind hemming is used on silk or other thin material when it is necessary to have the sewing invisible on the right side. Proceed the same as in hemming, except take up only one thread in the material and insert the needle in the fold of the hem, using a long, slanting stitch on the wrong side.



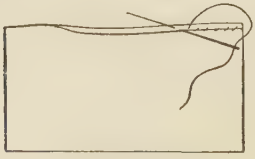
SLIP STITCHING



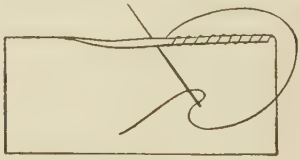
HEMS — RUNNING STITCHES

Slip stitching is used where an invisible stitch is desired on both sides, for holding facings, trimmings, hems, etc. It is not a strong stitch, but is very useful in finishing silk and wool hems.

Running-stitch hems are used on fine infants' garments and on sheer materials where it would not be advisable to use hemming.



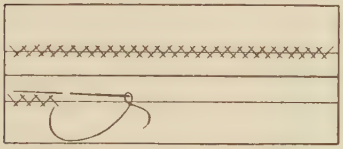
ROLLED HEM



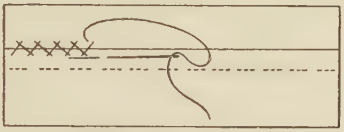
WHIPPING

Rolled hems are sometimes used where it is necessary to have a narrow hem on a slight curve.

Whipping overcasting stitches are used to join lace to the edge of a garment, or sometimes on handkerchiefs to roll the edges. The stitches must not be taken through the rolled edge, but under it. Rolling and whipping is sometimes used for edges of ruffles, which are then whipped to an edge. The stitches used for attaching the ruffle should take the same slant as the whipping stitches.



CATCH STITCH ON OPEN SEAM



CATCH STITCH ON FLAT SEAM

Catch stitch is a cross-stitch used to hold seam edges in place. It is used on flannel seams, especially infants' gertrudes and flannel and velvet hems. It takes the place of overcasting and prevents raveling.

Hand and Machine Stitching. When one compares hand and machine forms of stitches and forms of embroidery or trimming of any kind, he will find the following:

1. Finer effects can be obtained by hand sewing, but unless it is well done, even, and fine, it is not as good as machine stitching. The method of comparing two machine-stitched fabrics is to note the number of stitches to the inch. The finer the stitch, the better the grade of the garment.

2. Hand embroidery or trimming is preferred to machine work because it is softer, not so rigid, and more attractive. The machine work can be distinguished from the hand work by noting that the hand work is finer and attached differently on the wrong side.

3. The quality of the thread determines the strength of the seam. Silk is the best, as it improves the appearance and strength.

4. Seams should not be cut too close.

5. Stitching should not run off, as it then fails to hold.

6. Folds are sometimes turned under in such a way as not to be caught by stitching.

7. Embroidery and other trimmings should be straight.

8. Fastenings should be evenly sewed on.

9. Buttonholes should be properly made and reinforced.

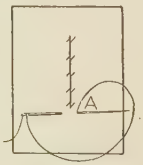
Buttonholes. There are certain parts of the costume that are brought or held together by buttons. The opening in the cloth or costume that holds the button is called a *buttonhole.* The buttonhole is made by cutting an opening in the fabric and then reinforcing the edges by stitches. It may be done by machinery or by hand — called " worked."

There are three types of worked buttonholes: one with a fan at one end and a bar at the other; one with a bar at both ends; and a third, called the tailor's buttonhole. Sometimes on children's garments, where there is a strain at both ends, we find them made with a fan at both ends, as in children's bloomers, drawers, etc. There are several steps in the making of a buttonhole, each equally important.

Marking Locations. With a bar and fan they are made on the upper side of the closing at right angles to the edge and so placed that they are one-fourth inch from the edge of the fold. In the front of a shirt waist they are placed parallel to the edge and in the center of the pleat or hem. Mark the position for the top and bottom buttonholes and divide the spaces between evenly. A buttonhole should be cut one-eighth inch larger than the diameter of the button and on an exact thread of the material. A pin prick at each end of the length of the buttonhole will aid in cutting the exact length if buttonhole scissors are not at hand. If buttonhole scissors are used, test the length of the slit on paper and then make a hem cut with one movement of the scissors.

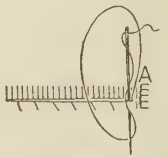
Barring and Overcasting. Buttonholes are strengthened with bars to prevent the edges from stretching. Bring the needle up at one end and allow the thread to lie parallel with the cut on the right side, then put the needle down at the opposite end. Do the

STRAND-ING



OVERCAST-ING

BUTTONHOLE STITCH



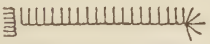
BUTTONHOLE WITH BAR AT ENDS

same on the opposite side of the cut. If the material frays badly reinforce it by machine stitching or running before cutting, or overcast the edges after stranding.

Buttonholes are also prepared by overcasting. Make five overcasting stitches along one side of the slit, turn the work, and make five overcasting stitches, on the other side of slit. Bring the thread up at A and make the bar at right angles to the cut, the length of stitch equal to the depth of both overcasting stitches.

The last overcasting stitch should be directly opposite the first; bring the needle up through the slit at the right. Hold the slit across the first finger of the left hand. Bring the needle out one thread of material below the overcasting stitches. Take the thread as it comes out of the eye of the needle and pass it under the point of the needle from right to left. Keep the thumb nail of the left hand on the stitch and draw the thread straight up from the stitch, keeping the thread near the material. This will place the purl directly on the raw edge of the cut. Repeat the buttonhole stitch to the end of the cut, being careful to keep the depth of the stitch the same and close together, but not crowded. Now bring the needle up and make three stitches the length of the buttonhole stitches at right angles to the cut, close to the buttonhole stitches. Make five loop stitches over the bar; the third or center stitch should be taken through the cloth. This will keep the stitches turned toward the buttonhole and thus strengthen the cut. Continue the buttonhole stitch to the other end and make another bar at the opposite end.

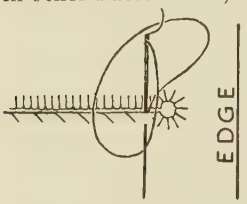
In working the buttonhole with a fan and bar proceed as in making the barred buttonhole until the end of the buttonhole near the fold is reached. Then take the stitches on a slant, inserting the needle at an angle, making five stitches in the fan, being careful not to increase the length of the stitches around the fan.



BUTTONHOLE WITH FAN AND BAR

The *tailored* buttonhole is used for heavy materials. Baste around the slit to be cut to keep the material from slipping. Use a stiletto and punch a hole at one end of the length of the buttonhole, then cut the length or cut on a thread of material to make a triangular cut, which will form a resting place for the button. After cutting, either strand the buttonhole with twist or use a cord,

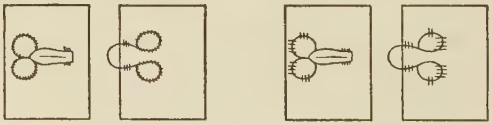
which must be held taut while working the buttonhole. Proceed as in other buttonholes, working around the rounded edge.



Buttons. In sewing on a button, use a coarse thread in preference to a fine double one. Make a small fastening stitch directly at the center of placing button. Bring the needle up through right hole of the button at 1, down at 2, up at 3, down at 4. Loosen up the threads and place a pin underneath them on top of the button, then continue stitches until four have been made. Remove the pin, draw the button away from the material and wind the thread four times around the thread between the material and the button. This forms a shank for the buttonhole and lessens strain on material and button. The wrong side of the material will show two parallel lines.

This is the strongest method of sewing on buttons. In a two-hole button, place the button so that the stitches will cross the warp.

Hooks and Eyes. Place the hook one-eighth inch inside the edge and sew through the two rings at right angles to the edge — four stitches, then three stitches at the side and four under the bill of the hook. For a very neat finish they may be fastened with a buttonhole stitch.



Snap fastenings are used where a very flat closing is necessary and where there is little strain. An easy method of placing is to sew on the ball part first. Rub tailor's chalk on the ball and press on the opposite cloth. The mark left by the ball shows where the socket side is to be placed. Sew them on with several stitches in each hole of the fastener.

The Marking of Seams and Notches. All seams and notches must be marked. This may be done in five different ways:

1. *Tracing Wheel.* For cottons. Trace on notches and seams

lines as given in the seam directions. Some patterns indicate the seam lines with small perforations or other signs. Others show no seam lines but in the directions state the allowance made. A three-eighth inch seam allowance is not enough for altering or nice finishing. Allow one inch for straight seams, three-eighths on curves.

2. *Chalk Board.* On many materials a line traced with the tracing wheel does not show. In such cases place the chalk board under the material to be marked and use the tracing wheel in the usual way. After one side is marked remove the pattern; turn the material on the other side and trace seam lines from those just made.

3. *Tailor Basting and Tacking.* Thread the needle with a very long double thread. Take three stitches about one inch apart, leaving loops about two inches long between the stitches. When the two thicknesses of material are pulled apart, cut these loops, leaving threads marking the seam lines.

4. *Seam Basting.* Place pins on the seam lines, parallel with them, through both thicknesses of the material. Then turn the goods over and run a line of basting stitches, taking them through one thickness only. After this is done, remove the pattern. Place pins on the line of basting, and on the other side place a row of basting stitches through that thickness of material.

5. *Tailor's Chalk.* The seam lines of a pattern may be cut off or turned back and the pattern chalked around with tailor's chalk on the wrong side of the material.

6. Another way is to use chalked thread so as to mark both sides alike. For this use a short thread. This method is used to advantage on thin materials.

The most important types of construction will now be considered:

Seams. Seams are used to join the parts of a garment. There are several varieties of seams and seam finishes, each adapted to certain kinds of material. The most important are:

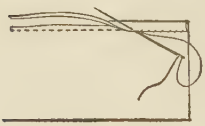
1. *French seams* are used on sheer materials and on thin and light-weight materials that are frequently laundered. The seam should be very narrow and not more than one-eighth of an inch in

width when finished. Hold the two edges of the garment with the right sides out, the wrong sides together, baste and stitch a little more than one-eighth inch from the marked seam line, trim off to within one-eighth inch of the stitching. Turn the material so that the raveled edges are inside, with the seam line directly on the edge. Crease or press the stitched seam. Baste just deep enough to inclose the edges of the seam. Stitch just below the basting and be sure that no ravelings project on the right side of the garment.

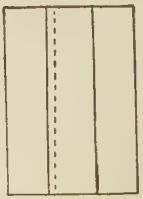
FRENCH SEAM

2. A *turned-in seam* — imitation French seam or false French seam. This seam is used where a design has to be matched and where it is desirable to secure the effect of a French seam. Stitch the seam as for a plain seam on the wrong side. Then turn in the edges toward each other, baste the edges together, then run by hand or stitch by machine close to the fold.

3. A *fell French seam* or standing fell is first stitched for a plain seam on the wrong side, then trim off the edge nearest you. Turn the projecting edge an eighth-inch fold, hem this fold to the seam line, or machine stitch. This is sometimes known as the *trade seam* and is used mainly on under-garments. It can be made with the fell attachment.



4. The *flat fell* is used where a flat finish is necessary, as on the shoulders of middy blouses, shirt waists, men's shirts, and boy's blouses. It may be placed on the right or wrong side of the garment and either hemmed or stitched flat. It is usually made on the wrong side of the garment when it is hemmed, and on either the right or wrong when machine stitched. To make, stitch a plain seam, trim off the edge nearest you, turn under the edge projecting and baste flat to the garment, then stitch close to the folded edge. The hand-made seam is cut, folded, and basted in the same way and then hemmed.



5. The *plain seam* is used where a flat, inconspicuous finish is necessary. It is generally used on tailored garments and on materials through which the finished edges will not show from the right side. In making plain seams, first pin the two edges together, having seam markings meet. Place pins at right angles to the edge of the cloth to prevent the edges slipping. Baste on the line of markings. Stitch directly below the basting, taking care not to stitch on the basting. Clip the basting every two inches and remove it. On silks and velvets use silk and clip the basting at each stitch, to avoid injury to the material. The finish of the edges of the plain seams will be determined by the kind of material.

a. Plain seams pinked. If the material is closely woven and does not ravel, the edges of the seam may be notched by hand or pinked by machine and pressed open. This method of finishing may be used on broadcloth, flannel, velvet, taffetas, fine linens, etc.

b. Overcasting is used on seams that ravel or fray. It is used on serge, dress linen, gingham. Overcasting is a very flat finish for seams. The stitches should be one-half the depth of the seam and one-fourth inch apart. The depth of the seam depends upon the looseness of the weave.

c. The edges may be pressed open and turned back on themselves, once only, and stitched or run by hand to themselves — not to the garment.

d. Materials that fray where they are liable to be seen are usually bound, either with silk seam binding, edges together, or pressed open and bound separately. Fold the seam binding with one edge projecting one-sixteenth inch beyond the other. Slip the binding over the edge of the seam with the border edge underneath, and while sewing with the running stitch hold the binding a little easy on the seam to avoid drawing the edge.

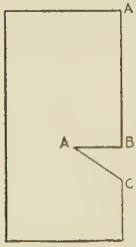
e. A rolled seam is used on sheer material where a narrow joining is required. Baste or stitch the seam edges together and trim all ravelings. Begin at the right edge and roll the two edges together and whip them. This is a suitable seam for georgettes and chiffons.

f. Hemstitched seams. Where there is no strain on the seam

hemstitching may be used. Baste the seam, hemstitch it, and cut close to the outer edge of the hemstitching.

g. Piquet seam. Sometimes the seam is hemstitched and cut close to the inner edge of the hemstitching. This finish should be used only where there is absolutely no strain on the seam, as in full-gathered skirts of organdie, chiffon, or georgette, where a flat finish is essential.

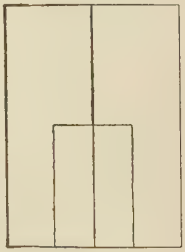
Edge Finishes. *Hems.* *a.* Plain or uniform hem. This hem is used on front and back closings, the bottom of straight skirts, and on household articles. The desired width is measured and can be more accurately folded by use of a gauge. *A–B* represents the width of the hem. Turn a fold on the material and then with the gauge fold and pin at regular intervals. Baste and stitch close to the edge.



GAUGE
For marking width of hem

b. Pin hems are one-sixteenth to one-eighth inch in width. Hold the edge to be hemmed away from you and make your first turning toward the wrong side one-sixteenth inch wide. Make a second fold the desired width. If the material does not crease well, it may be basted, otherwise hem without basting.

c. Damask hem, or napery hem, is used on tablecloths and napkins. Turn the material twice as for a narrow hem. Fold the hem back on itself on the right side, crease the material along the first fold and overhand the crease and fold together. Take small stitches so they will not show on the right side. Open and press the hem flat.



d. French or flannel hem. The seam is stitched to within twice the depth of the finished hem. Clip the seam at this point straight in to the line of stitching, turn the seam edges to the right side and stitch to the bottom. Press open, turn hem the right side, baste and stitch close to the edge, or, on a flannel gertrude, featherstitch.

e. Rolled hems are used where a dainty, inconspicuous finish is desired, such as on handkerchiefs, baby dresses, etc. By the use of colored embroidery cotton charming effects may be secured. Roll the edge toward you, working from right to left, rolling tightly

between thumb and forefinger of the left hand, take a few hemming stitches, and roll again. Whipping stitch, overcasting, or slant hemming stitch may be used to hold the roll in place.

f. Hems on skirts or dresses. 1. Establish the hem line as directed on page 355. 2. Turn the hem allowance on the marked line, which should be a straight thread of the garment. Pin and baste the hem in place. If the seam lines are bias, the garment must be marked and pinned up on a figure. In either case, before stitching try the garment on for approval of length.

Finish of Hems. *a.* If there is fullness at the top of the hem, it may be regulated by gathers if the material is thin or, on wool where it is to be pressed out, by darts placed at right angles to the edge fold of the hem, turning them all in one direction toward the left for ease in stitching and pressing. This edge may be blind stitched or stitched by machine to the garment. If the material is heavy, it should be gathered without turning at the top. Cover raveled edges with a narrow taffeta ribbon or Prussian binding. Stitch this in place on the edge, not through the garment, and hem or stitch in place.

b. In cotton dresses, underwear, and children's clothing, the hems are usually stitched by machine. On dresses the hem is usually secured in place by slip stitching on straight hemming. Sometimes the first turning of a hem is stitched in place by machine. This method is desirable where it may be necessary to change the length.

c. The edge of the hem may be pinked if the material does not fray, as in velvet, flannel, jersey, and caught in place.

d. Run hems are used on baby dresses of sheer material, such as batiste.

FANCY HEMS

e. Fancy hems and scalloped hems on the edges of dresses are sometimes in vogue. In measuring for the hem extra allowance may be made for the depth. The design is traced on the wrong side of

the material, basting is then put in on the design in order to trace it to the right side. The design may then be stitched by machine or any fancy stitch used. If the edge is scalloped, the design is stitched on the edge, cut out, and turned to the wrong side. All concave curves must be clipped at the deepest points of the curves.

Facings. Facings are used as finish for the edges of parts of garments and sometimes as a decoration. A facing may be applied on the right or wrong side of the garment; unlike the binding, it shows on one side only. There are four varieties of facings:

a. Straight facing is used on any straight edge. The only requirement is that it match the grain of the part of the garment to which it is applied.

b. A bias facing may be used on curved or straight edges. It can be stretched to fit the curve.

c. A shaped facing or fitted facing is cut the same shape and on the same grain of the material as the part to be faced.

d. An exceptional facing is a bias facing. The place to which it is to be applied has the edge turned wrong side out. The edges of the facing are turned under once and pressed, then the facing is applied and both edges are basted evenly, first on the outer edge, then on the inner edge, stitch for stitch. This allows easing on the inner edge and stretching on the outer edge.

e. Extension facing is used for lengthening a dress or for decoration. Cut the facing twice the width desired plus seam allowance on each edge. Baste and stitch to the right side of the garment. Turn the under edge of the facing and hem at the stitching line on the wrong side of the garment.

Piping may be either straight or bias, used as a facing, or placed between two thicknesses of material. It is used for edges of garments as a finish, or for decoration. As piping is usually made of bias strips of material, it is essential to know how to cut and measure bias strips.

The Bias. There are two kinds: garment bias and a true bias.

1. A garment bias is often used in dress seams.

2. A true bias is the diagonal of a square. It is a cut which divides the warp and filling threads equally.

3. It is used for bindings, facings, trimmings, etc., whenever there is a curved line, also for other trimmings.

To obtain a true bias. Lay the warped threads parallel with the filling threads.

To use bias strips. First cut them on a true bias; second, apply them without stretching.

To mark for cutting, first turn back one corner diagonally so that a true bias line is obtained. This crease is your first line and from it mark with a ruler as many strips of desired width as you need, remembering as you mark and cut that evenness is necessary to perfect work.

In piecing or joining bias strips, always match grains, as well as designs. In speaking of the width of a bias strip the distance between the cut edges is meant.

In buying material on the bias the length of the selvedge is measured. One must buy about one-third more than the desired width of the bias strip; for instance, 12.6 inches must be bought if a 9-inch bias strip is required.

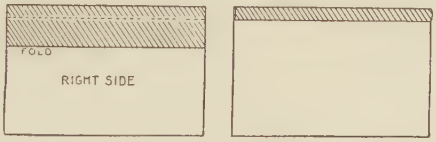
When 36-inch cloth is bought the bias is 50.7 inches.

When 18-inch cloth is bought the bias is 25.4 inches.

Rules for joining bias strips. Bias strips should be joined on the thread of the goods. Filling thread must join filling thread, warp thread should join warp thread.

Extend the end of one strip beyond the other — the depth of the seam.

Binding Curves. When binding a scalloped edge, ease the bias at the outside edge of the scallop. Stretch it where the scallop joins the other scallop. The same principle holds good in binding the neck of a dress — stretch the bias. In facing the neck of a dress, ease the bias.



BINDING

When using thin materials, use a double piece of bias, basting the bias strip in half, before placing the three raw edges together. This method does away with turning under a raw edge.

Rat-tail trimming is made by seaming a bias strip and turning right side out, leaving a tubing.

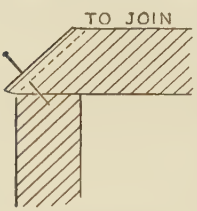
Piping may be attached to a garment without the stitches

showing on right side. Overcast the edges of the piping and the garment.

Facing with stitches showing on right side: Prepare the piping from one to one and one-half inches wide, fold one edge lengthwise one-third of the width. Place this on the right edge to be faced. Stitch through three thicknesses as for a seam, allowing the width of piping desired. Turn to the wrong side, turn under the free edge of the piping, baste, and either hem by hand, or stitch by machine. Suitable for washable materials.

Facing with stitches invisible on right side: Proceed as above, but instead of hemming the fold, stitch the turned-under edge not to the dress but by itself. It then will remain in place if well pressed. Suitable for wool or silk.

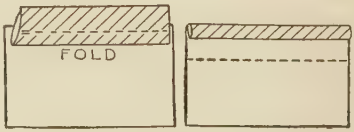
Corded pipings and facings are put on in the same way as above. Insert the cords and pin in place and then follow the same method as for piped facing or piping.



MARKING

Marking. To mark materials, first turn one corner back so that the selvedge or lengthwise edge is parallel with a crosswise thread and the crosswise-cut edge is parellel with the lengthwise threads. Crease on the fold. This is a true bias. Measure from the fold (bias) the width of the bias strips. Place pins. Cut on pins, then cut through the fold. This will give you two strips. Measure and cut from the bias edge, cutting through two thicknesses at once.

Forming bias strips. The most satisfactory method of piping is to join lengthwise edges, thus making the piecing follow warp threads. It is permissible to join crosswise threads.



BIAS STRIPS

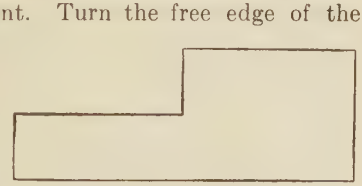
Plackets. A placket is a finished opening in a garment. It is little needed with the present style of dress. Plackets may be divided into two classes: those that are cut straight and made of lightweight materials, and those that join a straight and a bias piece of material or two bias pieces and used on heavy material. Plackets are lapped from right to left. The right side is called the *overlap*

and the left side the *underlap*. On women's clothing the lapping is right over left, on men's clothing left over right.

a. Hemmed placket, for baby dresses. Cut the opening along a thread of the material, usually 12 inches. On the left side of the opening turn an eighth-inch hem, tapering to nothing at the bottom. On the right side turn a three-eighth-inch hem. Lap this over the left side and at the bottom place two rows of backstitching one-eighth inch apart.

b. A placket used on flannel garments is made like the above, but featherstitching is used on the right side and catch stitching on the wrong side.

c. Bound or continuous placket. Cut the opening the desired length along a thread of the material. Cut a lengthwise strip of the material twice the width of the finished placket, with two seam allowances, and twice the length of the opening (about 2 inches for good measure). If the placket is to be applied by machine, place the right side of the binding on the wrong side of the garment; if it is to be applied by hand, place the right side of the binding on the right side of the garment. Lay the strip along the edge of the opening, both strip and edge of garment together, pin, and baste in a narrow seam. When near the bottom of the opening taper to a narrower seam — almost to a point. Turn the free edge of the binding under and hem on the stitching line or stitch on the outside.



PLACKET CUT

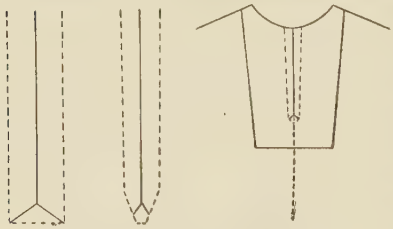
If inserted in a seam, place the strip a little back of the garment seam. In either case, fold the lap on the right side of the opening back on the garment and let the other edge extend to form the under lap. It will not be visible when the garment is closed.

d. Underwear, or bound and faced placket. Sometimes called modified or L placket. This placket has the strip or lap stitched on as in the continuous placket except that the side (right side of opening) that is to be folded back on the garment is cut to within one-half inch of the bottom and to one-fourth inch of the folded center line of the strip. Stitch or hem the underlap in place as in a continuous placket. Then fold back the facing and baste in place.

This must be hemmed or stitched down and across the bottom of the facing. It may be cut before applying if desired.

Facing for a Slash Opening. Cut the facing the desired width and length. Cut and baste the facing to the garment, center of facing to center line of garment, and baste on the center line. Stitch around the marking for the opening (like a bound buttonhole is most satisfactory), then cut on the basting line down to within one-eighth inch of the stitching, clip if necessary, and turn the facing to the wrong side of garment. Finish the facing around the edge by turning back one-fourth inch and stitching to itself — not to the garment.

Collars. To apply a collar, stitch edges together. Place the under side of collar to the wrong side of garment with the edges of the collar exactly meeting the seam at the opening of the center front. Pin around the neck opening, baste, stitch, turn under the free edge of the collar, baste, and hem to the stitching line. When the collar is in place the stitching will not show.



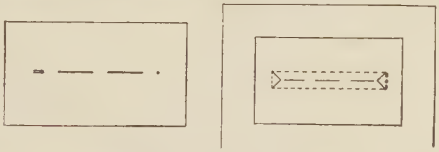
COLLAR STITCHING

To sew an unlined collar to a neckline, baste it to the neck with the wrong side of the collar to the right side of the garment. Baste a narrow bias strip along the edge of the collar. Stitch the seam and clip. Turn under the edge of the facing, baste, and hem to the garment. A double or lined collar is applied in same way. Stitch the outside edges of the collar and apply with a bias facing.

Bound Buttonholes or slashes through which belts or ties are run, are all made in same way. They are used for fastenings or for decoration. First mark the location for the buttonhole with a colored basting thread. Make it about one-fourth inch longer than the button, unless used for decoration. Mark the location of all the buttonholes with colored thread at one time.

The strips for binding the buttonhole are sometimes cut on the bias, especially if striped or checked material is used for binding. Otherwise they are cut lengthwise of the material. When used on a garment that is not to be faced and where it is desirable to have a

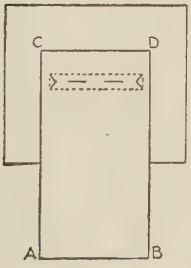
neat finish on the wrong side, cut the binding material one and three-fourths inches wide and one-half longer than the length of buttonhole. Baste the binding right sides together, center of binding on buttonhole marking. Stitch one-eighth inch each side of the marking basting, and across ends. Fold in one-eighth inch full around the edge of binding material and press. Cut along the line of basting through both garment and binding. Push the binding through to the wrong side, letting the binding-strip fill the space between the stitchings. Slip stitch the folded edge along the sewing line.



BINDING BUTTONHOLES

The finish on wrong side where it is to be faced: Do not turn in the edges, press, catch lightly in position. Baste the facing around the buttonhole securely enough to hold it in position. Cut a straight line over the buttonhole, turn in the edges of the facing, and slip stitch in place.

Bound Pocket. Mark the placing of the pocket by a line of basting stitches. Cut the pocket twice the desired length and one and one-half inches wider than the opening of the pocket. Crease the pocket piece two inches from one end, and place this crease directly over basting, ends extending evenly on each side, right side of pocket piece to right side of garment. Baste in position. Stitch across the ends and either side of basting one-eighth to one-fourth inch. Cut on basting line and diagonally to corners. Push the material to the wrong side. Press so that seams lie naturally. This will allow the facing to show at the top width of seam, and at the bottom width of seam completely filling the opening. Baste around the opening. Stitch across the bottom through garment and pocket. Turn up the edge *AB* to coincide with *CD* and stitch one-fourth inch around the edge of pocket. Overcast edges. Press and stitch across top



BOUND POCKET

edge of binding through garment and two thicknesses of pocket, close to binding. The corners may be cut round before stitching and overcasting.

Welt pocket is made in the same way except when stitching around the opening. Stitch three-eighths inch from basting, cut and turn the seam at the top so that the stitching of the seam is on the edge. Fold the bottom of pocket opening so that the pocket material fills the opening. At the ends turn back the little flaps and press. Turn to wrong side and seam to pocket material. This will secure the ends. Finish the pocket in same way as before.

Cutting. If necessary, sponge and shrink the material (especially woolens).

a. Straighten the ends of the material by drawing a thread in any fabric in which this is possible. Clip the selvedge, pick up a thread, and pull it. The space where this thread has been pulled will be an exact crosswise grain. In some materials it will be necessary to follow the design instead of the grain of the goods.

b. Place all parts of the pattern on the material before pinning them.

c. Pin the pattern in place, putting in pins so that they will not interfere with cutting, and all pins pointing in same direction, down, and close enough together so that the pattern will be held firmly in place.

d. Cut carefully, use sharp shears, and follow the edge of the pattern exactly.

e. Before removing the pattern, mark every perforation and notch necessary for construction with chalk or colored cotton thread. Do not cut notches.

f. Remove the pattern, fold, and place in envelope.

Construction. *a.* Overcast the edges of armholes and neck or place small running stitches on seam lines. This will prevent stretching of these important edges during construction.

b. Pin the parts of the garment together, having notches and sewing lines exactly coincide; place pins at right angles to the sewing line, so as not to interfere with the basting and to prevent the material fulling on the pins. Pin shoulder and underarm seams, starting even at neck and armhole.

c. Baste accurately, measure the width of seam at the beginning,

and test frequently as you proceed, with a pasteboard gauge. Cut with a notch exact width of seam. Straight basting means straight stitching.

d. If there is a dart, always begin at that point to baste with small stitches. If the seam of the sleeve meets the underarm seam, match notches on sleeve with notches on back and front of waist, the highest point or center of sleeve with the shoulder seam. Straight lengthwise thread should fall straight from the shoulder seam down the upper part of the arm. A straight crosswise thread of the same material should be a continuation of the width of the back and width of the chest line.

Fitting. *a.* Remove the dress. Great care must be taken with the first fitting.

b. Pin carefully wherever alterations are to be made.

c. Determine length and width of the sleeve.

d. Remove the sleeve from the dress.

e. Remove the dress carefully.

f. Make both sides alike.

Finishing Seams. *a.* Stitch seams, remove basting, press open, finish seams, overcasting or binding, binding where possible. If serge or other smooth finished material is used, instruct the pupil to press on the wrong side.

b. Have neckline finished. Plain serge dress — bias finish of serge. The dress trimming very often suggests finish for neckline. Never use thin satin or similar material in light color for finishing. Color of any kind may be used, but added in various ways.

c. Finish the sleeve completely and carefully press before putting in dress.

d. Finish of armholes and hem are the last part of the work. Press carefully.

General Rules for Pressing. 1. Always press on the wrong side when possible. When not possible, cover material with a cloth or tissue paper.

2. Always press with the grain of the material.

3. Be careful when pressing a bias not to stretch it.

Cotton and linen: Dampen and use a fairly hot iron.

Silk: Do not dampen. Do not use a very hot iron. If basting

threads are to be left in while pressing, use silk threads. Do not use knots. Never sprinkle silk after washing. Iron it before it is completely dry.

Wool: Have a woolen cover on the ironing board. Place damp pressing cloth over part to be pressed. If there is danger of the material acquiring a shine during pressing, place a woolen cloth on it before placing the pressing cloth.

Shrinking the top of sleeves: Have the extra fullness gathered with tiny gathering stitches. Place the sleeve on the edge of the cushion, wet wool with a damp cloth. Press until dry.

QUESTIONS

1. (*a*) When did the ready-made clothing industry develop? (*b*) Why has it been a success?
2. Is it possible to revive home dressmaking?
3. What are three methods of making clothing?
4. (*a*) Describe the three methods of designing clothing. (*b*) State the advantages and disadvantages of each method.
5. What is the ideal method of making a costume?
6. Why is it possible for a normal person to be easily dressed?
7. What is the commercial method of making costumes and placing them on sale?
8. Name and describe the two classes of dress manufacturers.
9. (*a*) What is meant by making a costume by draping? (*b*) State the advantages and disadvantages of this method.
10. In examining a costume, what points should be considered?
11. How are commercial patterns made?
12. Why should great care be exercised in making a costume?
13. Name and describe the use of the tools used in constructing a costume.
14. (*a*) What is the difference between thread and yarn? (*b*) What is meant by size of thread?
15. Give briefly the history of sewing.
16. (*a*) Why do we have different types of costumes? (*b*) Name and describe the different types.
17. According to what standards should materials be selected for costumes?
18. Name the different methods of cutting a piece of cloth and state the advantages and disadvantages of each method.
19. Why do we cut on the "bias"?

20. (*a*) What is meant by the grain of the cloth? (*b*) Why is it necessary to know the grain?

21. What is the relation between the form and costume?

22. (*a*) What are the different methods of designing clothing? (*b*) State the advantages and disadvantages of each method.

23. Explain in detail how commercial patterns are made and used.

24. If patterns are made for model figures how are corrections made?

25. What is the (*a*) standard form, (*b*) ideal perfect figure?

26. (*a*) Are the measurements of the normal figure fairly constant? (*b*) State the definite relations between the different parts. (*c*) What are the dimensions necessary to know in the normal figure in order to determine the others?

27. Name the different types of forms, outside of the normal figure, and state the artistic or style strength and weaknesses.

28. (*a*) What are the specific weaknesses in artistic style in the form that may be present in any type? (*b*) How may each be corrected by clothing devices?

29. Name the different sizes for the normal costumes.

30. (*a*) What is a draped pattern? (*b*) State the advantages. (*c*) How is a draped pattern made?

31. (*a*) What is meant by draping on the form? (*b*) State the method of draping on the figures.

32. State the cutting devices for correction of a short, thin figure.

33. Explain how modifications may be obtained in clothing to correct: (*a*) long-waisted figure, (*b*) short-waisted figure, (*c*) large hips, (*d*) large bust, (*e*) flat chest, (*f*) round shoulders, (*g*) short, fat arms, (*h*) long, thin face, (*i*) broad face.

34. State the clothing devices for (*a*) tall, slender figures, (*b*) tall, broad figures, (*c*) tall, angular figures, (*d*) short, stout figures.

35. (*a*) Why do wider fabrics cut to better advantage? (*b*) How is a bouffant effect produced in a costume?

36. (*a*) Why does the average woman buy ready-made clothing? (*b*) Has home dressmaking disappeared? (*c*) State the advantages of home dressmaking.

37. (*a*) Explain how a style analysis is made. (*b*) State the advantages. (*c*) Explain in detail the method of style analysis.

CHAPTER XV

FINDINGS, TRIMMINGS, EMBROIDERY

In considering a garment we must include many items, such as (*a*) thread, (*b*) buttons, (*c*) hooks and eyes or other fastening agents, (*d*) beads, (*e*) belting, (*f*) tape, (*g*) bindings, (*h*) braids, (*i*) collar stays, (*j*) waist bones, (*k*) linings, and (*l*) trimmings, all of which either add to the usefulness or success of the costume by finishing the edges, or serving as trimmings or fastenings. These different items are called *findings.*

The quantity and kind of findings used in finishing or decorating a costume vary with different styles. In fact, the details or findings are one of the essential elements of a style.

Thread is one of the most important findings, used also as a trimming. When one considers the vast amount of thread used in the manufacture of clothing — the holding of the different parts together — one can appreciate its importance.

The composition of thread is various, and care should be exercised in selecting the proper kind for each purpose.

Thread is a compound cord consisting of two or more yarns firmly united by twisting. It is composed of either silk, cotton, or flax. Thread made of silk is technically known as sewing silk; that made of flax is known as linen thread; while cotton thread intended for sewing is commonly called spool cotton. These distinctions, while generally observed by the trade, are not always heeded by the public.

Thread varies in composition, twist, and fineness, and consequently in strength, elasticity, etc. Spool cotton for ordinary use is made in sizes ranging from No. 5, coarse, to No. 200, fine. No. 50 cotton means the fineness of cotton, denoted by 50 cotton lengths (hanks) each of 840 yards to a pound, or a total of $50 \times 840 = 42000$ yards of thread to the pound. No. 50 cotton thread is sold

as three-cord or six-cord, identical in size. In other words, the six cord or No. 50 is made of six single yarn threads, each of the latter being twice as fine as the number of the thread designated on the label. Three-cord spool cotton is made of three single yarns, each the same number as the thread.

To show how threads different in composition vary in strength and elasticity consider the following: Reeled silk has strength and elasticity, allows the parts of the fabric to "give," and at the same time adds strength to the fabric. Spun silk has some but not all of the properties of the reeled silk. Linen thread is strong but coarse and lacks elasticity. Long-stapled cotton, like Sea Island, has length and luster, therefore it is better than the short-stapled cotton, but it has not the strength and elasticity of silk. Since silk is the ideal thread for costumes and probably costs not over 10 cents more than other threads that might be used, it will be well to consider the different kinds of silk thread.

The term sewing silk is generally confined to hand-sewing silk; this is made by winding and doubling the raw silk, giving it a hard twist, and doubling and twisting again in the reverse direction under a strong tension.

Machine twist is made in a way similar to that used in making hand-sewing silk, except that it is a three-ply instead of a two-ply thread. It is largely used for hand sewing as well as machine sewing.

Floss silk generally consists of a large number of singles, very slightly twisted. *Embroidery silk* consists of numerous slightly twisted singles, doubled and again slightly twisted in the reverse direction. These soft silk yarns, practically without twist, are used in making embroidery and other fancy work by hand; they are not adapted to machine use.

Sewing silk, often designated simply as "sewing," consists of two threads twisted from left to right; that is, it has the twist of a right-hand screw. *Machine twist* is made from right to left, and is usually of a harder, closer twist than sewing. The latter may be put up either in skeins or on spools. Machine twist is always spooled. While sewing silk cannot well be used for the sewing machine, twist can be employed for a great variety of purposes besides that for which it was devised. It has taken the place of sewing silk to a considerable extent, and this substitution is still

going on in different manufactures. Merchant tailors and other makers of clothing are now almost the only users of skein silk.

Spool silk is put up in two great divisions: either as yard goods or as ounce goods. In general, the yard goods are sold by the yard irrespective of weight. These constitute the majority of the spools sold at retail by dry goods and fancy goods dealers. The ounce goods are sold by weight, which is stated on the spools in ounce and ounce fractions. This thread is mostly used for manufacturing purposes; and the makers of shoes, corsets, and clothing prefer silk thus put up, because it is on large spools that do not have to be frequently replaced, as do smaller ones, on the sewing machine.

Machine twist is made from the best grades of China and Japan raw silk. Sewing silk, for dressmaker's use, does not need to be as perfect, strong, or elastic as that for machine work, and is usually made from lower grade raw silk. Some sewing silk is made from spun silk, but this lacks elasticity and is inferior. Spun silk if tightly twisted will give fair service, although not as long as reeled silk.

Embroidery cotton is a variety of soft-twisted cotton thread, dyed in solid fast colors and also bleached, used for embroidering with the needle upon cotton and linen. It is put up both in skeins and balls, in size ranging from No. 3, coarse, to No. 35, fine.

Buttons. In ancient times buttons were far from being as universally used as they are now. Clasps, hooks and eyes, or fastenings made of wood, were used for holding together the two edges of garments. Two hundred years ago there were not as many buttons in the whole world as may be found today in a small notion store. In fact, until the fourteenth century the world managed to struggle along without these conveniences. When first introduced they were used as ornaments, and were sewed on the garment at random, according to the taste or caprice of the wearer. During the latter part of Queen Elizabeth's reign it was discovered that a small slit cut in the cloth and fastened over the button rendered these ornaments useful. From that time on buttons have continued to grow in popularity, until making them has become an important industry.

There are two systems used for the measurement of buttons — the English and the French. English measurement runs 14, 16, 18, 20, etc., "lines"; the French runs 4, $4\frac{1}{2}$, 5, $5\frac{1}{2}$, etc. An English line

is one-fortieth of an inch, or forty lines to an inch; the French line may be expressed thus: .08887 of an inch. The following table illustrates the relation in which the two systems stand to each other.

English measure.....	18	20	22	24	26	28
French measure.....	5	$5\frac{1}{2}$	6	$6\frac{1}{2}$	7	$7\frac{1}{2}$

The materials employed in button-making are as varied as the styles of buttons. In addition to metal and the well-known mother-of-pearl and vegetable ivory, there are also glass, porcelain, agate, horn, bone, rubber, paper, and different woods; while among the materials used for covering buttons may be mentioned lasting, brocade, twist, velvet, silk, and mohair.

Hooks and Eyes. A fastening for garments, consisting of a hook commonly made of wire bent to the required shape, and an eye of the same material into which the hook fits, under the name of crochet and loop. This form of fastening was in use in England as early as the fourteenth century.

In the process of manufacture the wires are first drawn forward from a supplying reel containing hundreds of yards of wire made expressly for hooks and eyes. The machine automatically cuts off sections of the required length and lays them in position. A "sinker" then descends and forces the piece of wire into a slot by which the hook is bent, two projecting clamps acting at the same time on the two ends, bending the hook over so as to form the holding-loops. Passing on a little farther in the machine, a second "sinker" forces the double wire into another slot, and so completes the hook part. The eye is formed in a similar manner.

The hook and eye has become so necessary a part of women's costumes that the faculties of hundreds of inventors have been brought to bear on this small article to devise improved forms of it. The improved type of hook as now made has a short, closed, wedge-shaped bill, very strong and durable, with a central spring against which the eye rests. The spring is of such a form that the eye glides readily over it, giving ease in hooking and unhooking, yet affording sufficient resistance to prevent accidental disengagement.

Another device is called a *snap*, in which the two parts are connected by pressure and may be separated by a slight pull. It is more effective than the hook and eye.

Interlining is a layer of material placed between the cloth and the proper lining of a garment, or parts of a garment. Interlining may be used either as a stiffening to give proper shape, or as a padding for the production of greater warmth. For the latter purpose double-faced cotton flannel is commonly used, while for the stiffening of women's dresses and men's coats a great variety of fabrics are employed, as hair cloth, crinoline, wigan, buckram, elastic canvas, linen scrim, fiber cloth, etc. For the interlining of starched collars and cuffs various grades of muslin and cambric are used.

Crinoline was originally a stiff lining material made of horsehair and linen, but now woven also of coarse cotton yarns and heavily " sized " in the finishing process; dyed various plain colors and bleached; used as a light-weight stiffening or interlining for dress skirts, collars, cuffs, sleeves, or for any purpose where only moderate rigidity is required.

Dress Lining is a general term including a great variety of materials used for lining or stiffening the various parts of women's gowns and children's frocks; such as silesia, drilling, cambric, canvas, percaline, moreen, buckram, wigan, haircloth, etc.

Dress Shield is a small circular-shaped piece of cotton cloth rendered waterproof by various processes, used for fitting into the arm-pit of women's dress-waists to protect the cloth from possible injury from the action of perspiration.

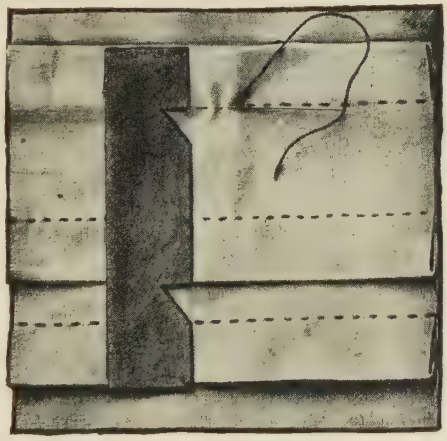
Dress Stay is a narrow, flat strip of metal, whalebone, wood, etc., commonly covered with muslin, sateen, or some similar material, and ranging in the length from 6 to 10 inches; used for stiffening various parts of women's dresses, corsets, etc. Dress stays were formerly made exclusively of whalebone, but at present are principally of metal, horn, and vegetable fiber.

Binding is a strip of any kind of woven material used to secure the edges of cloth or of a garment, either for the purpose of strengthening it or to prevent it from fraying or raveling; as, skirt-binding, carpet-binding, coat-binding.

Skirt-Binding is a material used for binding or facing the bottom of a dress skirt, to prevent it from being worn or frayed in walking. The materials most commonly used for this purpose were worsted braids of various kinds, narrow bias strips of velveteen, and what is known as brush-edge binding. (Also called skirt braid.)

Trimmings. Look at an elaborate costume and notice how the trimming increases its beauty. In fact, that is the sole purpose of trimming — to increase the beauty of the clothing — and the moment it fails to do this (as by overdressing or overloading) it defeats its aim. Trimming gives a distinctive touch to a costume. Since it is desirable to have each costume different, we should not use the same trimmings on many costumes.

Tuck. In needlework, a flat fold in the fabric, or in a part of a garment, held in place by stitches, and often one of a series laid parallel; a tuck differs from a pleat in that the former is stitched in position from end to end, while the latter is sewed part way from the top and pressed into position. Tucks are used either for decoration or in order to dispose of extra material in a garment, with a view to etting it out as the wearer grows or as the fabric shrinks.



TUCKS

Tucking consists of material ornamented with parallel rows of tucks, either arranged close together and covering the surface, or in clusters, with spaces between. It is used for women's summer waists, yokes, underwear, and skirts, and sometimes as fronts for men's shirts.

Tucks are valuable because they trim and form the lines of a garment at the same time — and, in addition, because they tend to shape the gown to the contour of the body and to slenderize the silhouette. Due to their great variety — dignified tucks that follow conventional horizontal and vertical lines, intellectual tucks that form geometrical figures, capricious tucks that make curves and criss-crosses and sunbursts — they never become common or tiresome to look at.

Tucks are considered " in place " on almost every type of dress. On flat crepe or georgette afternoon frocks tucks may form the entire trimming. All-over tucking may be in vertical or V-shaped designs. Tuck trimming, however, in groups around the hipline or in insert yoke and banding formation, is usually more effective.

A diplomatic combination has been effected by the tucks with their rivals, the bows. The use of bows with tucks has a softening effect, especially flattering at a V-neckline in combination with the V-shape tucking motif.

Tucking on coats is novel without being faddish. The light-weight materials of the spring coats lend themselves readily to the tiniest of tucks. Diagonal tucking, sometimes in a deep band around the bottom of the coat, sometimes in a band and also a panel extending to the coat collar and often on the sleeves, is effective.

Tucks and hems give us an opportunity for good spacing and parallel lines. The line of the costume and the kind and quality of the fabric determine in a large degree the primness or boldness of stripes.

Contrast in width and spaces adds to the attractiveness of the costume. An excellent opportunity is afforded for different arrangements of tucks. Equal width of tucks is monotonous, while tucks in different sizes and spacing are desirable. Tucks lend themselves to innumerable variations of the theme, from pin tucks to deep folds or occasional insets for the sake of trim.

Pleats. A pleat is simply an overlapping fold made by doubling the cloth of the costume upon itself into narrow strips. Pleats are in the form of panels, or they are made into tiers that cover the skirt, or they are inserted somewhere about the skirt section, or they may at times form the whole skirt.

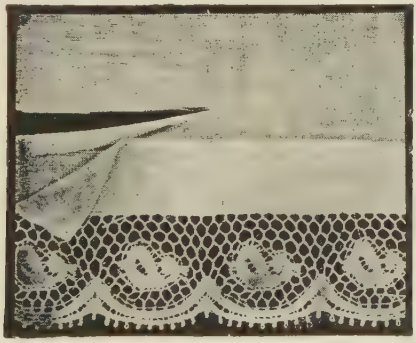
Pleats give freedom of movement. They seem to accentuate the quality and the charm of the thinner and more pliable fabrics, such as chiffon, flannels, wool crepes, etc. Notice the pleats in a dress and see the style effect as one walks — they provide the swing and flare, the motion and the grace of the costume.

Light-weight materials are good for tucks and pleats. Heavy materials will not pleat, and tucks will not look well on them. Pleats yield to stitching or shirring, a new characteristic that enhances the wearability of the pleated garment.

Flounce is a deep ruffle, that is, a strip of any material used to decorate or cover a garment, especially a woman's skirt. Flounces may be circular or straight, depending upon fashion.

Ruching. A full quilling or pleating of net, lace, lisse, ribbon, muslin, or other material, used as a trimming for women's garments, or worn at the neck and wrists; in width, commonly ranging from one to three inches. Ruching usually consists of two or more rows of material arranged in box or shell pleats or in the form of quilling. A piece of the material of suitable width and length for a collar is called a *ruche*.

Ruff. A projecting band or frill, pleated or bristling, especially one worn around the neck. In the sixteenth century ruffs of muslin or lawn, often edged with lace, pleated or goffered, and stiffly starched, were worn by both men and women. Some of the old-time ruffs were very broad, projecting six inches or more in all directions.

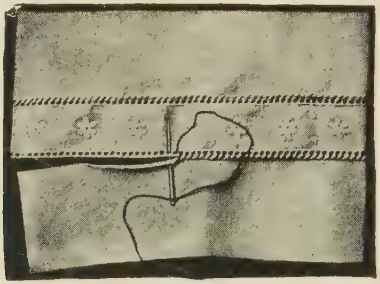


EDGING

Edging is a narrow lace or embroidery especially made for trimming frills and parts of dresses. It is usually made with one straight edge and one scalloped.

Galloon is a narrow fabric made of lace, embroidery, or braid. Some of it is made with a mixture of metallic threads, or cords covered with gold, silver, or gilt, etc., and is used for ornamenting uniforms.

Insertion, or *inserting,* is a narrow lace or embroidery or other ornamental material especially made for inserting into a plain fabric. Insertion is made with both edges alike, usually straight,



INSERTION

and with a certain amount of plain work on either edge for use in sewing it into the fabric.

Ribbon. A strip of fine fabric, as silk, satin, or velvet, having two selvedges. Ribbons in this sense were introduced into Europe in the sixteenth century. Prior to this time, they were not made separately, but were woven on the bands or borders of garments and were narrow like a rib, hence the origin of the word *ribband,* which was the old English and the present French term for our ribbon. During the early days of their manufacture they were frequently made of gilt, intermingled with threads of gold and silver. These were regarded as articles of luxury, and, in order to suppress the tendency of the public in this direction, the English parliament passed an act forbidding their use by tradesmen, artificers, and yeomen, reserving to the nobility the right to wear them. In the seventeenth century, silk ribbons were worn in great profusion, and it was then that they acquired that hold upon public favor which has lasted to World War period. The fashion of wearing them and their general structure has had few fluctuations since that time. History relates that in the years between 1650 and 1700 ribbons were worn in the greatest profusion by the men of Europe. Every portion of their attire was trimmed with them.

Beads are small perforated ornaments, of round or oblong shape, worn by women in necklaces, bracelets, trimmings, etc., also used

for ornamenting slippers, purses, watch-guards, and a great variety of fancy articles.

The process of making the ordinary colored glass beads of commerce is simple. The first step after melting the glass is the making of the long, hollow tubes. Two workmen seize a mass of molten glass between their blow-pipes, and after it has been blown hollow, they slowly separate and stretch out the tube into a long, delicate rope. When reduced to the proper size for the beads wanted, it is laid away to cool, after which a workman, in a wonderfully deft manner, chips it into sections of uniform length. For very small beads these sections are not larger than a grain of rice, but so carefully is the work done that the cylinders are rarely cracked or spoiled.

The pieces are then picked up by boys and placed in a tub containing fine sand and ashes, in which they are throughly but carefully stirred. In this way the hollow interiors of the embryo beads are stuffed full, thus preventing the sides from flattening or welding together when the heat is applied in the next operation. This consists in placing them in a large iron pan and stirring over a very hot fire until the ragged edges and angles are rounded, giving the beads a smooth, globular form.

As soon as they are sufficiently cooled, the sand and ashes are shaken out of them in a sieve, and then they are separated according to size. They are next taken to a long table around which deft-fingered boys and girls sit. Each child has a needle and thread, and from long practice is able to place the beads on strings with almost inconceivable swiftness. The strings or threads are then tied into bundles of twelve strands each, and the product is ready for market.

Pearl beads are made almost exclusively in France, where they were invented in 1656 by M. Jaquin. The common varieties are blown from glass tubes and then "rounded" over a hot fire, as described above. An expert workman can turn out 6000 a day. The peculiar misty or pearly appearance is imparted to them by means of powdered fish scales mixed in proper proportion with the glass. The "essence of pearl," as it is termed in the bead trade, is very expensive, the scales of 16,000 fish being required to make a single pound.

Beads may be attached to a costume by hand or machine stitching. Of course the hand-stitched attached beads are supposed to, and usually do, remain longer than the machine-stitched, but are more expensive. You may tell machine-stitched from hand-stitched attached beads by noticing the wrong side of the costume. If a chain stitch has been used it signifies machine-attached. Beads give a finished edge to a costume.

The Chinese are the oldest beadmakers in the world. They have made beads so long that even historians do not mention a time when the industry was not ancient. After the Chinese, no people are so expert as the Venetians, and the manufacturers of Europe and America have all learned the secrets of the craft from ancient Venice.

Passementerie. This is a general name for heavy edgings and trimmings made of gimp, braid, cord, beads, and the like, and used for the decoration of women's gowns, wraps, and hats. The passementerie used in the United States is for the most part imported from Germany and France, being produced by the cheap peasant labor of those countries. The raw material used in the manufacture embraces narrow silk gimp, ribbon, braid, and cord, jet, metal, pearl and glass beads, together with buckram, satin, and various kinds of cloth for the foundation work. The beads are obtained chiefly from Coblentz in Germany and Venice in Italy, the other materials required being mainly of local production. The design for the passementerie is first drawn on a thick strip of paper and given to a worker. The latter then sews on narrow silk cord, gimp, or buckram, according to what the foundation of the trimming is to be, and follows the pattern, basting this over it through the paper, and tacking the gimp or buckram firmly at different points to form the figure. When this is accomplished, the basting threads are cut and the design is complete upon the foundation. In the next process comes the slow work of ornamentation by beads.

Fringe. The ornamental decoration of the borders of a costume, consisting of loose threads or loose edgings, is called a *fringe*. Fringe may also consist of the frayed or raveled edge of the fabric, but is generally of other material, attached by stitching.

Gold and silver fringe, which is now used for epaulettes and the

trimming of banners, has been worn by ecclesiastics as far back as history of dress has been traced, but was not adopted in civil costume until the fifteenth century. For five hundred years or more the styles of trimming women's gowns with fringe have come and gone at the call of fashion. Sometimes it has been most popular in the form of knotted and twisted silk, again as the curly chenille, or as cords, more or less fine, and arranged in fanciful combinations.

The artistic value of fringe is the softening effect it produces on the costume.

Fringe may be the same color as the frock itself. Often it is dyed especially to match, and when fringing is added it is the only decoration of the gown. The greatest charm of fringe is the gracefulness it gives to the frock, for when its wearer walks about there is that floating, sweeping quality given to the gown which adds to the airiness and beauty demanded of an evening or an afternoon dress.

Dresses with beaded fringe are often used, and these are very charming, the glitter of the beads being highly accentuated by the dangling position in which they are placed. There is also ostrich fringe, which is soft and beautiful. Then, of course, there is the fringe of silken threads, which must be hand-knotted in order to be accepted by the elect, and this is the most popular of all. Fringe may be made of silk, rayon, tinsel, etc.

The following narrow fabrics are used in trimming.

Beading is a variety of insertion made with a row of holes in the center, and extending the entire length of the web; usually a narrow silk ribbon or colored cord is laced through the holes for ornamentation. Beading is produced in both lace and embroidery; and is used chiefly for trimming muslin undergarments.

Webbing is a name commonly applied to narrow woven or braided fabrics which are intended for strength or to bear weight, as a belt or surcingle or suspender webbing.

Cords are made by braiding together three or more threads; the larger the number of threads, the more nearly does the cross-section of the resulting cord approach a circle.

Tassels are made by twisting or braiding together threads which are cut into a certain length and gathered together at one end.

Braid. Examine a piece of braid and note that it is a narrow textile band or tape, formed by twisting together several strands of

silk, cotton, wool, or other material, used as a trimming or binding for garments, for stay laces, shoe laces, etc. Many narrow fabrics used for tying and ornamentation cannot be woven on a loom, and for the production of these the process of braiding was invented.

Braid varies in kind according to the style, but it is one of the most inexpensive and yet effective trimmings. It may be loosely or tightly made. Of course, the tightly-made braid is stronger than the loosely-made when subject to wear — such as friction — because the loosely-made will tend to unravel or " rough up " badly.

In the numbering of braids they are designated as being of so many " lines," according to the number of ribs they possess. If a braid has four ribs running lengthwise from end to end, it is called a 4-line braid. The majority of standard wool dress braids, such as Goff's, Corticella, etc., are numbered 61, which signifies that the braid is composed of 61 threads. This may easily be determined by counting the ribs — which will be found to be 15 — each rib or plait being composed of 4 threads = 60 and one thread necessary to start the web = 61. On account of one thread being necessary to start the plaiting of a braid, all braids, if " sized " according to the number of individual threads which compose the texture, will be found to bear odd numbers. Formerly they were all so numbered, but in recent years the width of fine silk and mohair braids is indicated by the number of longitudinal ribs in their structure.

Embroideries. Embroideries and the art of embroidering are classed among the earliest accomplishments of civilized peoples. From time immemorial Egypt, Persia, Turkey, India, in fact, all the countries of the Orient, rivalled each other in fostering the art. As civilization extended westward, it was transplanted into Europe, where embroidering in all its branches was developed to an extraordinary degree of excellence. Among the Greeks the art attained a high perfection, so that the influence of their work remained through after ages and affected all subsequent styles.

Embroidery may be ranged in two classes. First, white embroidery, worked upon cloth — muslin, cambric, swiss, tulle, etc. — and applied to dress and furniture. This class is usually made in the flat-stitch style and is for the most part machine work. In its production Switzerland holds first place, and then France, Ger-

many, and Scotland. The second class comprises embroideries worked in silk and in gold and silver threads.

Tambour work originally meant a kind of embroidery worked by hand on muslin tightly stretched by means of hoops or a frame similar to that encircling a tambour. Previous to 1750, tambour work was not known in Europe, except in Turkey. At that time it was worked upon muslin with white thread, and was used to ornament dresses, curtains, caps, borders, and all varieties of white trimmings. In England, the work of tambouring upon white materials with white thread became a branch of manufacturing about 1830, and gave employment to the poorer classes in Middlesex and Nottingham, and in Ireland, but since the introduction of machinery, owing to the facility with which the stitch is executed by the embroidery machines, it is no longer profitable to make it by hand.

The *tambour stitch* produces a pattern of straight ridges crossing each other in every direction at right angles or acute angles. In Switzerland, the stitch is sometimes used in the manufacture of window curtains. In America, the work is usually applied in the manufacture of fancy articles for household use, such as throws, scarfs, tidies, and pillow shams.

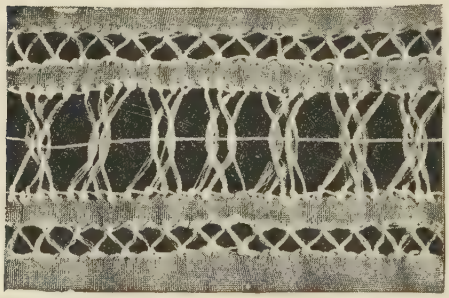
The first embroidery work was chiefly used upon the edge or border of church vestments and ecclesiastical garments. Later it came to mean ornamental designs worked with the needle upon silk, wool, cotton, or other woven material. The difference between a woven design like a Jacquard and embroidery lies in the mode and manner of producing the design. In the weaving, the ornamental pattern grows simultaneously with the fabric texture in the loom; while in embroidery, a woven fabric is required as a foundation, and the free artistic hand works out the design upon it.

Examine the embroidery effects on a costume and note that the material of the embroidery is always lighter than the material of which the costume is made. This is necessary, as otherwise the effect is heavy and unpleasant. Embroidery that is to be frequently washed, such as one would find on underwear, may be very durable (especially the edge), as the friction of laundry may cause it to loosen or fray.

Bonnaz embroidery is a variety of so-called embroidery work

produced by means of a Bonnaz machine. The machine itself, both in principle and appearance, is similar to the ordinary sewing machine, except that it produces a tambour, drop, or chain stitch. The needle, instead of being stationary, is movable, so that it can be made to follow around the outlines of complicated patterns, such as scrolls, circles, loops, vine work, and the like, without the necessity of moving the cloth that is being embroidered. This feature is of great advantage where rapidity of production is an object, particularly in the formation of involved patterns on large pieces of cloth, such as Brussels and tambour curtains, dress goods, and the like.

Appliqué in dress and upholstery usage means applied or sewed on. An article is appliquéd when it is ornamented with a pattern of lace which may be sewed on a new ground, or with embroidered flowers which may be secured to silk net; in such cases the pattern ornament is said to be appliqué.



DRAWN-WORK

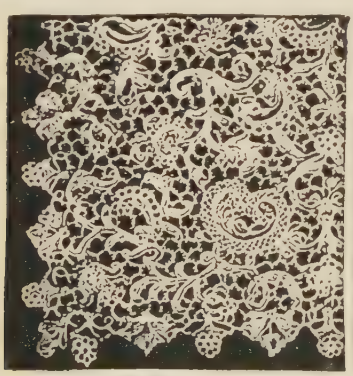
Drawn-work. This is a kind of ornamental work done in textile fabrics by pulling out or drawing to one side some of the threads of the fabric, while leaving others, or by drawing all into a new from, producing various fanciful patterns. This drawn thread work is the simplest kind of lace. The early name for it was cut-work. Modern drawn-work is generally left in patterns of more or less complexity without the addition of needlework.

Pinking. The operation or process of punching a decorative pattern of scallops and small holes along the edge of silk and other fabrics used for dress or upholstery. Also called *pouncing*.

Lace. The word lace is sometimes used in a general sense to mean any article of a lacelike character, such as Barmen lace, which is a fancy braid, and Plauen or burnt-out lace, which is made by embroidering on a foundation material that is afterwards removed

by flame or chemicals. Technically, however, the lace machine is the only machine that produces lace; no article produced by braiding, knitting, weaving, or embroidering, can correctly be termed lace. Lace consists of two parts, the ground and the flower, and may be made by either hand or machine.

Mesh is a term used to describe one of the clear spaces of a net or netting — an opening in network of a size determined by the distance apart of the knots by which the crossing threads are united. By extension it means the open space between the threads of a loosely woven textile. In lace and similar fabrics, the whole background, often formed of threads very irregularly spaced, is sometimes termed the *mesh*.



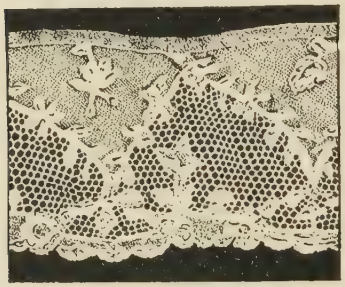
VENETIAN NEEDLE-POINT
18th Century

VENETIAN NEEDLE-POINT
17th Century

Handmade lace is of two kinds: (1) needle lace, made with a single needle and thread, each opening, called a mesh, being completed as the work progresses, and (2) pillow or bobbin lace, made with many threads, each attached to a bobbin and resting on a pillow while being made; hence, the name bobbin lace. Because of its manufacture by many bobbins it is possible to make more elaborate designs and more beautiful meshes than in any other fabric.

Examine a piece of pillow lace and needle-point lace and notice from the above illustrations and the samples that bobbin or pillow lace has the qualities of suppleness (softness) and graceful flexi-

bility, more so than needle-point, and is better adapted for use in mantillas, veils, and coverings for the head and shoulders of women.



PILLOW-MADE BRUSSELS
18th Century

PILLOW-MADE BRUSSELS
17th Century

Needle-point lace has greater strength and makes a better appearance, due to the beautiful designs. Because of these reasons and because they are more difficult to make, needle-point laces are often called the aristocrats of the lace world, and are used only on occasions of state.

Lace, representing one of the oldest and best forms of trimming, has a distinct artistic and feminine touch. Fashion decides the kind and amount to be used during the season. Among the common types of laces are the following:

Val lace or *valenciennes* lace is one of the most popular. It is made either by hand or machine in a variety of widths and designs. The *French val* lace is made of very fine thread with a diamond-shaped mesh. The double thread or *German val* is made of a heavier thread (double size) with a hexagonal mesh. The *filet val* lace has a square mesh. Val lace, on account of beauty, adaptability, and durability, is used on all kinds of lingerie, neckwear, blouses, and gowns, as well as children's clothing.

FRENCH VALENCIENNES

Mechlin lace appears like val lace, but is made of finer thread and is lighter and filmier in appearance.

Torchon laces are made of coarser yarns than val laces, hence they are firmer and more coarsely plaited. These laces are very strong and are made in all widths and designs.

Cluny lace is made of a rather coarse linen thread with a characteristic star design. It is quite strong and is used for decorative purposes rather than for trimmings on clothing.

HAND-MADE CLUNY

Maltese lace is composed of silk with a maltese cross and seedlike design.

The above laces are all bobbin or pillow types.

The principal needle-point laces are as follows:

Venetian point or *venise* laces are made either of coarse, strong, or fine threads. The coarse thread types contain heavy cords or ridges.

Filet lace has a square mesh with the design woven or interlaced into it. It is a strong lace with a flat surface.

There are other laces such as *Armenian* and *Irish* that are of minor importance. The *Armenian* lace is narrow and is made with a needle. It is used for handkerchiefs and infant's wear. *Irish* lace is a strong, thick lace made with crochet hooks with distinct Irish motifs, such as shamrocks, roses, etc.

History of Lace. While weaving is the oldest method of producing cloth, lace-making followed shortly afterward. The idea of lace-making came from twisting and stitching the frayed edges of torn garments. In early times fabrics were scarce, and they were frequently handed down from generation to generation. Only the nobility could afford sumptuous costumes. Since these costumes would naturally become thread-bare and frayed, they would require skillful needlework in order to retain their decorative value. It was in the course of making these frayed fabrics attractive that lace formation was discovered. Lace soon became a method of producing decorative fabrics, and its history is a romantic story dating from the days of the early Egyptians.

History tells us little about how laces were worn until the reign

of Henry VII, when laws were passed forbidding any man under the rank of baron to wear ruffles made of lace bought outside of England. Women whose station was of lower order than that of "knight's wife" were also forbidden the use of imported laces. At this time and later, princes of the church used laces lavishly on their robes and on altar cloths.

It remained for Elizabeth, the daughter of Henry VIII, to introduce the ruff during the second year of her reign. This collar, in direct contrast to the simple surplice, bertha, and Dutch collars which give today's frocks such a refined feminine air, was a stiffly starched, bulky affair. It was not uncommon for a ruff to be trimmed with as twenty yards of the fine thread lace of the period. Ruffs remained popular in England until Charles I came to the throne, when large lace collars became the mode. Persons of quality, with the exception of judges, wore these collars until the middle of the seventeenth century. Charles II wore rich laces on his cravat instead of a lace collar because the custom of wearing flowing locks made this mode no longer practical.

While women of noble birth in England were wearing the not-always-becoming cart-wheel ruff, Catherine de Medici was startling France with the open ruff. This collar, which stood up like a fan behind the head and tapered to the front with a low-cut bodice, won much favor because of its general becomingness. Made of needle-point lace in geometric pattern, the Medici ruff was held up by supports made of wire wound around with gold or silver thread.

During the seventeenth century, extravagance in dress, and incidentally the use of rich laces, grew apace in Europe. Indeed, lace became so popular that it was not an unusual sight to see bath tubs surrounded by great flounces of it.

Lace, however, did not thrive so well in the American colonies at this time. Laws prohibiting its purchase were actually enacted to prevent the frivolous-minded from indulging their taste for lace-trimmed finery. Prohibition of lace continued from year to year until the early part of the eighteenth century, when fine clothes were again permitted and the Steinkirk, a neckcloth of lace worn negligently, became the fashion.

Point d'Alençon, that delicate lace which is responsible for much of the beauty of fashionable dresses, was also highly thought of by

Empress Eugenie. She even went so far as to have her white satin wedding dress entirely covered with it.

Marie Antoinette liked to wear her laces much in the manner of girls of 1928 — a frill at the sleeve and a bit more outlining the corsage. She wore blond lace almost exclusively, while the present-day wearer of up-to-date fashion has her choice of Point de Venise, Duchesse, Bruges, Rose point, Carrickmacross, Point d'Alençon, and Flemish lace.

DINNER DRESS
With lace collar and pearls

Artistic and Style Value of Lace. Nothing, it is generally conceded, is more becoming and flattering to the figure than lace. There is a softness and a grace about it which outstrips even chiffon or tulle. It has about it the tradition of being the real and superlative fabric for the adornment of women. Lace dresses accentuate femininity in any personality, and lace is the height of fashion.

For those of larger figures, lace has a softening effect when it is properly used, and the grace with which it falls and its transparency make a combination that has much charm to lend to the woman who wishes to subdue the lines of her figure.

On the other hand, lace does quite as much for those who are a trifle too thin. It softens the sharp outlines and gives a feminine character to lines which under some other circumstances might appear too angular and harsh. It does more in this way than chiffon can ever do, for there is something about the tracery of the pattern of lace and the filminess of the net in between the design which combines to give the effect so earnestly desired by persons of this particular type.

For tiny women, again, lace is perfect. It adds to their daintiness and brings out the charm of their inherent delicacy to a very large degree.

Lace gives a medium for the expression of modern cloths. It flutters and floats as the newer dress cloths should do. It forms itself most naturally into bolero styles, into capes, into flounces and drapings.

QUESTIONS

1. (*a*) What is meant by the expression "findings" of a costume? (*b*) Name some of the most important ones?

2. What relation exists between the style of a costume and the findings?

3. (*a*) What is (1) thread, (2) stitch? (*b*) What is the difference between thread and yarn? (*c*) What is thread used for?

4. Describe the different types of stitching and state whether they are (*a*) temporary, (*b*) permanent, (*c*) fastening, (*d*) decorative in character.

5. (*a*) Give some idea of the importance of stitching. (*b*) Compare the time necessary to perform hand and machine stitching.

6. Describe the manufacture of cotton thread and the method of numbering the fineness.

7. What is the difference between (*a*) sewing silk, (*b*) machine twist, (*c*) floss, (*d*) spool silk.

8. How is silk thread numbered?

9. What is the difference between hand and machine stitching?

10. Explain with sketch the (*a*) single thread or chain stitch, (*b*) double thread or lock stitch, (*c*) shuttle stitch.

11. How can each of the stitches in Question 10 be identified in a costume?

12. Explain briefly the history of the power sewing-machine.

13. What is (*a*) hem, (*b*) plain seam, (*c*) French seam? Explain the practical or artistic or style value of each.

14. (*a*) How is the fabric cut for patterns and costumes? (*b*) Explain the reason for different cuttings.

15. (*a*) Describe the right and wrong side of a fabric. (*b*) What is meant by "grain of the cloth"?

16. What are buttons used for in a costume?

17. Give a brief history of buttons.

18. Describe briefly the manufacture of buttons.

19. (*a*) What is meant by the expression "hook and eye"? (*b*) Describe the manufacture. (*c*) Explain the part the hook and eye plays in an artistic costume.

20. (*a*) What are beads? (*b*) Give a brief history of beads. (*c*) Explain briefly the manufacture of beads.

21. (*a*) What is the purpose of linings or interlinings? (*b*) Describe the fabrics that will meet these requirements.

22. Describe the meaning of the following terms: (*a*) dress lining, (*b*) dress shield, (*c*) dress stay, (*d*) general binding, (*e*) skirt binding.

23. Describe and state the use and artistic (style) value of (*a*) neck ruffling, (*b*) inching, (*c*) ruff, (*d*) ruffle, (*e*) ruffling, (*f*) fluting, (*g*) edging, (*h*) galloon, (*i*) insertion.

24. Describe and state the use and artistic value of (*a*) quilting, (*b*) tambour work, (*c*) appliqué, (*d*) drawn work, (*e*) plaiting.

25. (*a*) What is a tuck? (*b*) State the use and artistic effects.

26. (*a*) What is a flounce? (*b*) State the use and artistic value.

27. (*a*) What is a fringe? (*b*) State the use and artistic effects.

28. Describe the following narrow fabrics, and state the use and artistic effects: (*a*) banding, (*b*) belting, (*c*) braiding, (*d*) bone casings, (*e*) braces, (*f*) tubings, (*g*) webbings, (*h*) cords, (*i*) tassels, (*j*) passementerie.

29. (*a*) What is braid? (*b*) State the use and artistic value.

30. (*a*) What is embroidery? (*b*) Give a brief history. (*c*) How does it differ from woven fabrics? (*d*) State the artistic value. (*e*) What is bonnaz embroidery?

31. Name some of the threads and yarns used in embroidery.

32. (*a*) What is lace? (*b*) Name the different kinds. (*c*) How do they differ in manufacture? (*d*) Give the artistic value of each.

33. Give a brief history of lace.

CHAPTER XVI

MILLINERY

Importance. The clothing of the head is important because it is one of the most prominent parts of the human frame and is the center of vision in conversation. Extreme care should be used to bring out the artistic or beautiful points and cover up the weak ones.

Face. Let us consider how certain defects in the appearance of the face may be corrected.

(*a*) In order to have proper proportion, the face should have the eyes half-way between the top of the head and the chin. If they are placed higher, it gives a masculine appearance, and if placed lower, a child-like appearance. If the face appears short, trimmings of all kinds on the side should be avoided. The covering of the head — the hat — should be trimmed on top to give added height. Feathers will give a softening effect to a face inclined to be angular.

(*b*) The outline of the face and hair, and the inner lines such as (1) drooping lines of the mouth, (2) good or badly formed lines of the nose and chin, (3) wrinkles, (4) eyeglasses, may be improved by the proper shaped-hat. If the lines of the face are either repeated or contradicted by the lines of the hat, they become very prominent. If any or all the lines are attractive, then repetition or contradiction lines in the hat should be used. But if any of the lines of the face are not attractive, transitional lines should be used in order to make the undesirable lines appear subdued or inconspicuous.

In other words, the lines of the hat or the dressing of the hair should be such as to bring into prominence the best lines of the face. A woman with a large face should not wear a small hat.

Eyes. There are three characteristics of the human form that cannot be altered, although their effect may be modified to a surprising degree. These are the color, size, and position of the eyes in the face. There is no way of exchanging brown eyes for blue ones, but the color of hazel or gray eyes may be made to appear browner, greener, or bluer by choosing the right color for hats, jewelry, or frocks (see Chapter III). A good way to bring out the blue in gray eyes is to wear a blue-gray costume with touches of brighter blue or blue and orange on it. Tan with a small medium-blue figure in it is also becoming. Clothes of green and yellow tend to make light eyes seem greener. Red, brown, pink, and tan emphasize the brown in hazel eyes. In general, when an all-blue costume is worn it should be either the shade of the eyes or a duller shade. Navy blue may be worn, but any blue that is brighter than the eyes tends to make them look faded if it is used in large quantities.

The size of the eyes is another fixed characteristic, yet the eyes may be made to seem larger if the lashes are long, dark, and well-groomed. Small, light-colored eyes will look large and more interesting if the lashes are darkened.

The ideal space between the eyes is equal to the length of an eye. Wide-spaced eyes give an innocent, peaceful expression. Close-set ones are not so pleasing. Although nothing can be done to change the position of the eyes, one may avoid wearing the coiffure and clothes that emphasize one's defect.

Hair. Short or bobbed hair changes with fashion, but usually has had a short career, even with the use of switches, puffs, and artificial curls for evening wear. It seems likely that the new vogue will be a compromise between long and short hair and will avoid the disadvantages of both.

There was a time when a girl would boast of having hair long enough to sit on, and every woman who made any pretentions to beauty had tresses that reached at least to her waistline. Long, thick hair is beautiful when hanging loosely, but it is difficult to build into a simple and becoming coiffure. The bob was a revolt against the tyranny of heavy coils of hair and innumerable hairpins. Extreme simplicity took the place of elaborate hairdressing. Yet there is a certain monotony about bobbed heads, and the problem of the bristly neck seems unsolvable. A woman looks her

best when her hair is about 15 inches long and is arranged in a simple, close-fitting coiffure that exhibits the graceful contour of her head. Hair of this length is not too short to wave prettily and yet not long enough to be burdensome.

Hair differs in quantity, texture, and color. Some people have a large growth of hair, while others have a scanty growth. Hair differs in degree of softness — some is stiff and some is soft. Hair may be straight or curly. This difference is due to the shape or contour of the individual hair fiber; if it is flat or elliptical in cross section it is curly, while if it is cylindrical it is straight. Of course, curl may be given to the hair by artificial means. The color includes all variations of black, brown, white, gray, etc.

The style of wearing the hair should harmonize with the shape of the head and should have slight variations on the sides. If one has a beautifully shaped head, with regular features, it is desirable to emphasize the head by drawing the hair back from the face and rolling it into a knot. The arrangement of a large quantity of hair or puffs must be carefully considered, as it tends to make the hair out of proportion to the face.

The style of hair which is becoming to most women is one that has a broken outline which may be modified (*a*) to shorten a high forehead, (*b*) to reduce a square or too round face. The width and height of the forehead, as well as its proportion to the whole face; and also the eyes must be considered in planning a becoming coiffure.

There was a period, not so long ago, when a woman tried to conceal that she had any forehead at all by bringing her hair down to her eyebrows. The present trend, however, is to show a good deal of the brow in order to make the face look longer. Those whose faces are already too long and thin for beauty should cling to the brow-covering coiffure.

Different Period Hair Styles. Women have had many and various styles of hair dress during different periods of history. For example, we have all shades of difference from the bobbed hair style of today to the *fontange* of Louis XIV, which was such a tall headdress that the ceiling of the carriages had to be raised so that the ladies could get in. The *fontange* developed from a simple coiffure into an imposing structure of wire in successive tiers,

and was ornamented with flowers, lace, ribbons, jewels, etc., at a cost as high as $1200. Isabelle of Bavaria introduced into France a tall conical cap for a headdress (called the *hennin*). It was a large meshed fillet which enclosed the hair from behind. In front the hair was arranged on top of the head in two broad coils built over a foundation of a padded cap. The reason Isabelle introduced this cap was because she had lost all her hair and did not want to wear a wig.

The *escoffion* was a headdress made of linen, stiffly starched, and wired so as to hold two horns in place. This form was at one time worn indoors and out as a feminine head decoration.

HATS THAT TELL A TALE

In olden times, hats denoted rank. Above may be seen hats of (1) the Brittany peasant, (2) the cavalier, (3) the physician and (4) the Chinese official.

Headdress. In Scotland the term *bonnet* is applied to any kind of a cap worn by men, but specifically to the closely woven and seamless Scotch caps of wool, known as glengarrys, balmorals, braid bonnets, and kilmarnocks.

In England, about the year 1480, extravagantly trimmed bonnets were worn by men as well as by women. These were usually made of cloth, sometimes richly adorned with feathers, jewelry, and ornaments of gold.

A *toque* is a style of head covering worn in the sixteenth century by both men and women. At present it is a small form of lady's hat in the shape of a round, close-fitting crown without brim.

A *Tam O'Shanter* is a style of cap borrowed from the Scotch and named after the hero of a famous poem by Robert Burns. It is

without a peak, the crown large and flat and extending straight out from the headband from two to four inches.

Turban hats have been taken from oriental countries and have a distinct style value. It may be difficult for the majority of women to wear them to advantage.

At the beginning, when hats were first worn, each nationality and, in fact, each trade or official had a special design that characterized the nationality or trade or rank.

Hats. A hat is one of the most important parts of wearing apparel and should be selected with considerable care, according to (1) contour of the face — oval, round, or long and thin; (2) style of the coiffure; (3) the figure — tall, thin, short, or stout; (4) color and character of the gown or coat to be worn. A round-faced girl or woman usually looks most attractive in a hat with a medium-sized brim; the woman with a long, slender face may wear turban styles as they make the face look wider; a short person should not wear a hat with a large, drooping brim; a tall, slender person may. Of course, a sport hat should not be worn with a dress coat, nor a dress hat with sport or business clothes.

Hats may be of two classes: (*a*) turban (cloche) or (*b*) brim hats. A turban is a closely fitted hat and can be worn only by one whose features and face are well-proportioned. The brim hat is puffed to one whose features are irregular and prominent, as the brim tends to throw a shadow on the face — to soften or subdue the irregularities.

Since the head is the unit of measurement for artistic proportions of the body, it follows that the size of the headdress should be such as will add grace and beauty to the form. If the hair is puffed or increased, or if anything is added to the head to make it appear too large, it will tend to make the rest of the form clumsy and awkward (out of artistic proportion).

1. The shape of the hat should be harmonious with the shape of the head, the dressing of the hair, and the face.

2. The hat should be easily carried on the head, that is, not appear too heavy.

3. The style should be adapted to the poise of the head.

4. The hat should harmonize with the whole costume from all angles — front, back, and side.

The following points will aid in making a proper selection:

a. The crown of the hat should be as wide as the face.

b. Hats should not fit too closely on large faces, because large faces must have a background.

c. Round hats or hats with distinct circular lines (whole or in part) should not be placed on round faces, as they tend to leave an after-image that makes the face look rounder.

d. A brim on the hat tends to throw back the features and make them less prominent. A stern face should wear a brim hat so that the shadow will soften the features.

e. Trimmings on the front also tend to make the features inconspicuous.

f. Trimmings on the side of the hat tend to increase the width of broad faces.

g. Brims turned up on the side tend to make small faces look smaller.

h. Irregular, graceful curves on hats tend to overcome the weakness of an oval face.

Every season there is a new trend in the millinery mode — there are changes in the size of the brims, the crowns are higher or lower, the hats are placed a trifle differently on the head — and these details count toward making the style of a hat. The emphatic note is a matter of showing the forehead or accenting an eyebrow — but this does not mean merely pushing the hat up or wearing it on the back of the head.

A BECOMING HAT

A hat should look as though it were made on the head, and the

only way to judge its effect is to view it from all angles — in relation to the contours of the face, neck, and profile, and in relation to each part of the hat itself. Thus, the hat and face must be a perfect composite.

The woman shown in the illustration on page 403 has found a hat that suits her. The off-the-forehead movement and the lifted brim are smart details that vie for interest with the black picot straw and rose-mauve grosgrain ribbon. The hat as shown here in three views is worn as it was designed to be — firmly on the head, straight above the eyebrows, and low on the neck.

Felt Hats. Felt hats are made by a method of pressing called felting. This method of making fabrics is one of the oldest, dating back to the time of Moses.

FELT HATS

At present, hats have become standardized as is the case with many other articles. With 30,000,000 felt hats produced in this country yearly, the output may be said to be too vast and too complicated for the specialization of former times.

Although hats seem to have gone on forever (there is no record of the first one) soft hats, as we know them, were not seen in the United States until 1849, when the first one was worn here by the Hungarian patriot Kossuth.

The best felt hats are usually made from nutria, muskrat, beaver, and rabbit fur. The first chemical treatment they are subjected to is technically known as "carroting." It consists of an application of a mercury solution, which increases the felting properties of the fur fiber and causes it to mat together more successfully.

These skins must be aged for several months before they are ready for the next treatment — brushing and cutting into shreds. The fur is in this way separated from the skin, sorted for color and quality, and fed to the blowing machine, which rids it of all foreign matter.

It is then ready for the forming machine — a revolving copper cone, about three feet high. Suction draws the fur around the cone, and in this matted condition it is treated with several dippings of hot water to shrink it and give the hat strength.

The felt is next dyed and stiffened with shellac, and at last sent to the pulling-out department, where it is stretched over a form, and finally takes on the shape of a hat, after it has passed through the pouncing, finishing, curling, and trimming departments.

Children's Bonnets and Caps. Children's head coverings, such as bonnets and caps, should have the following qualities: (1) warm in winter and cool in summer, (2) appear dainty and attractive, (3) capable of being frequently washed. The fabrics used for head covering vary from silk (crepe de chine), knitted wool, cotton (lawn and organdie), to beaver, velvet, etc.

QUESTIONS

1. State the importance of head clothing.
2. (*a*) State the strong and weak points of the artistic side of the head. (*b*) State some of the prominent lines, both artistic and inartistic, of the head.
3. (*a*) State the importance of hair. (*b*) Give a brief history of hair styles. (*c*) State the history and social significance of hats.
4. State the principles upon which hats should be selected.
5. State the importance and kinds of children's bonnets.
6. Define the following: (*a*) tam o'shanter, (*b*) bonnets, (*c*) toque, (*d*) turban.
7. State the history and manufacture of felt hats.
8. State the characteristics of children's caps.

CHAPTER XVII

MEN'S CLOTHING

Early History. In the early stages of history men spent much time in hunting and fighting, which required considerable freedom of the right arm and its clothing. Hence the early clothing (skins) was thrown only over the left shoulder, in order to leave the other free.

Prior to the thirteenth century each order of people in the community had its own costume. The clothes hung from the shoulder — a long under tunic or chemise. [illegible] an outer tunic. A mantle, long, flowing sleeves, and girdles were also worn. Men wore round caps, women of rank a veil held in place with a crown.

The details of the clothing of both sexes have been described in Chapter V. Under the reign of Louis XV clothes, both men's and women's, reached the acme of taste, beauty, and elaboration.

During the fifteenth century, the pointed or Gothic influence became prominent in dress, and we find the men wearing long, close-fitting trousers and stockings. Short coats, large slashed sleeves, and pointed hats and shoes were worn. The [illegible]en wore smocks.

During the Renaissance (the sixteenth century), the fashionable shape of figure changed, and the costumes for men were short, slashed trousers, long stockings, — " doublet and hose," — ruff, cape, coat with sleeves, and hat and plumes. The colors were bright with gold and naturalistic designs of large flowers and scrolls.

During the seventeenth century the costumes for men were close-fitting trousers to the knee. Musketeer boots with high heels, coats with peplum, round lace collar, etc., were followed by

collar and jabot, wigs, and hats with plumes. The colors were strong and contrasting, with naturalistic designs.

CHARLES I

Look at the picture of Charles I and note that his clothing represents many beautiful features. The hair hangs loosely on the shoulders. There is a carefully brushed mustache and pointed

beard — called Van Dyke. Breeches were worn to the knees and tied with ribbons. Shoes were made of soft leather, fitted to the leg. Large, dashing hats had broad brims, voluminous cloaks were draped over the shoulder, and men wore earrings and ribbons.

During the eighteenth century the costumes of men were differentiated for different professions, such as military costumes, and costumes of state. The costumes for every-day wear consisted of long-skirted peplum coats, stiffened and brocaded waistcoats, jeweled buckles, laces, red heels on shoes, hair in a queue, tri-corn hat with plume.

The colors used in fabrics were many, with pastel shades. The motifs were naturalistic with refinement and grace. Garlands of flowers tied with ribbons were worn. During this period, printed linens and cottons began to be used on a large scale, due to the invention of power textile machinery.

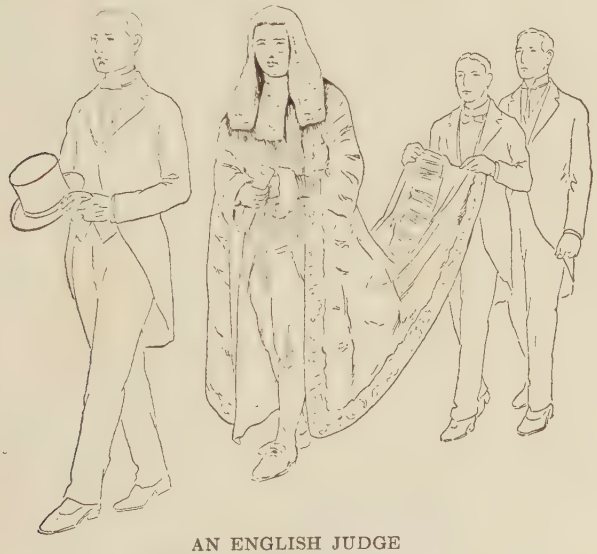
After the French Revolution knee breeches, white-powdered wigs, etc., disappeared, and long trousers, long-tail coats, and high heels became the style. During the Restoration period, 1814–1830 (see page 111), men wore beaver hats, long-tail coats, and trousers.

Causes of Changes of Clothing. We have seen that clothing for men, like clothing for women, has changed in every age or period. There is a recognized general style of costume in every country that brings out the artistic side of the human form, according to local taste and religious, political, and social beliefs. For example, the clothing in the Orient differs from that in western countries, due to difference in religious and social points of view. There a woman wears trousers as an essential part of her costume, because the social belief is that woman's outline of form should not be exposed. According to oriental opinions, a woman without trousers would be indecently clad, while in the western countries we would be surprised and feel that a woman was not decently clothed if she did wear trousers. In a similar way, a man in the East wears a turban, while the women in the western countries wear a similar turban called a *toque*.

The tendencies that lead women to wear different kinds and types of clothing, as described in Chapter IV, are seen to be equally strong in men. This emotional influence in dress, which is suppressed in ordinary life, is seen without inhibition in the costumes of fraternal organizations. The excitement of the ritual is emphasized by the grandeur of the costumes.

Again, consider the costumes worn by the servants of the rich and nobility and notice the desire of the leaders to dress their servants in distinctive costumes.

Notice the costumes of military officers and officers of state — ambassadors, etc., — the king's crown, a general's epaulets, the bearskin hat and red coats of certain military organizations. What do these costumes indicate?



AN ENGLISH JUDGE
With powdered wig and robe

Remember that the judges of the Supreme Court, in fact judges of the lower court in the United States, wear silk robes to impress the dignity of the court on the offender and the public.

In England, where the powdered wig was once a common article of adornment and a distinctive symbol of caste, only the legal profession adheres consistently to the custom. A judge there may not administer justice nor a barrister, male or female, appear in court with head uncovered.

Democracy has played a tremendous part in the levelling of social customs, particularly dress. A part of the freedom of the American atmosphere is due to the crumbling of standards and distinctions which have been long respected in the Old World. Certain occupations called professions — lawyers, doctors, ministers — and some business men for a long time — held a certain social position that was reflected in the clothing they wore. Not nearly as much is made today of the place a man holds or of the way in which he earns his living.

While women's clothing changes more or less from season to season, men retain very nearly the same sorts of suits, overcoats, and other garments that they have worn for half a century. Even in the textile fibers used for their clothing men change very little, apparently, in comparison with very noticeable changes that are taking place in the materials women prefer at the present time.

In hosiery and underwear there is a real departure from tradition in men's clothing; silk and rayon socks are replacing to some extent the cotton or wool in their everyday apparel.

On page 38 is a description of the artistic points of the human form. If the same standard of beauty — the Greek — is used, we shall find that in the unit of measurement the head of the male is larger than the head of the female and, of course, the proportional parts and the total height greater, in the normal figure. The shoulders of the male are wider than the hips, while in the case of the female the hips are wider than the shoulders. The muscles are firmer and show more straight lines than curves, due to more physical exercise which has developed the fibers of the muscle. Man's features approach angularity and his forehead and eye-brows are compact and heavy — massive in

type, all of which we associate with physical strength and power and call masculine development. The colors and ornaments of a man when in uniform are such as to give the appearance of dignity and power — they are bright medals and angular. So we naturally associate straight lines with severity and seriousness and also with the dress of man.

THE GREEK CONCEPTION OF MALE BEAUTY

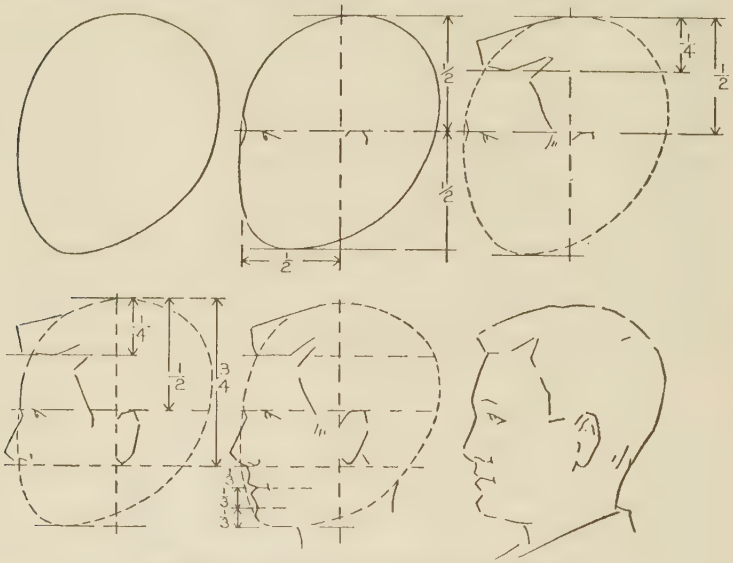
Compare the outline of the male and female forms according to the Greek standards. Note the men's shoulders are wider than the hips and that the outline of the figure is composed of more straight than curved lines.

Sometimes the masculine physical traits are found in a woman, and we say that she is masculine — boyish, or mannish in type. On the other hand, a man may have womanish or girlish traits, such as delicacy, may be tender, soft in nature, and emotional, and we speak of him as an effeminate type. These traits should be taken into consideration in selecting the proper costume for the person.

The model male figure, like the female, has differed in details at various periods. During the Victorian period, both the male and female waistlines were larger than today. This is due, no doubt, to the physical training and child training during the

past generation. Through most of the civilized countries, the period of youth has lengthened and the physical development has been toward greater height and less weight.

The proportions of the artistic male figure are about the same as the female form — the head is the unit. The fashion-plate figures are: model form, $7\frac{1}{2}$ heads, and high-school form, $6\frac{1}{2}$ heads. The height of the male is greater than the female, due to the fact that the unit — head — in the male is larger than the female.



SHAPE AND PROPORTIONS OF THE HEAD

Types of Figures. As in the case of women, we have different types of figures for the males:

I. Tall and well-proportioned — 5′ 10″ to 5′ 12″.
II. Average type — fairly tall and well-proportioned, 5′ 8″.
III. Tall and thin.
IV. Tall and stout.
V. Short and stout.
VI. Short and thin.

The prevailing type of physique for men has varied during the different periods. Due to changes in social and industrial conditions, coupled with the wide-spread practice of physical training, it has been possible for the present generation to retain its youth and develop in height. With this change has come a decrease in the size of the abdomen and an increase in height.

The principles of after-images apply to men's clothing as well as women's. To illustrate:

The following devices should be used to overcome defects in physical development:

a. Tall and thin — should wear napped fabrics, horizontal effects (checks, etc.) and large and light designs, and avoid vertical effects.

b. Tall and stout — subdued colors, etc., so as not to leave a conspicuous impression of the form.

c. Short and stout — subdued colors, vertical devices, lines, etc.

d. Short and thin — vertical lines, napped fabrics, etc.

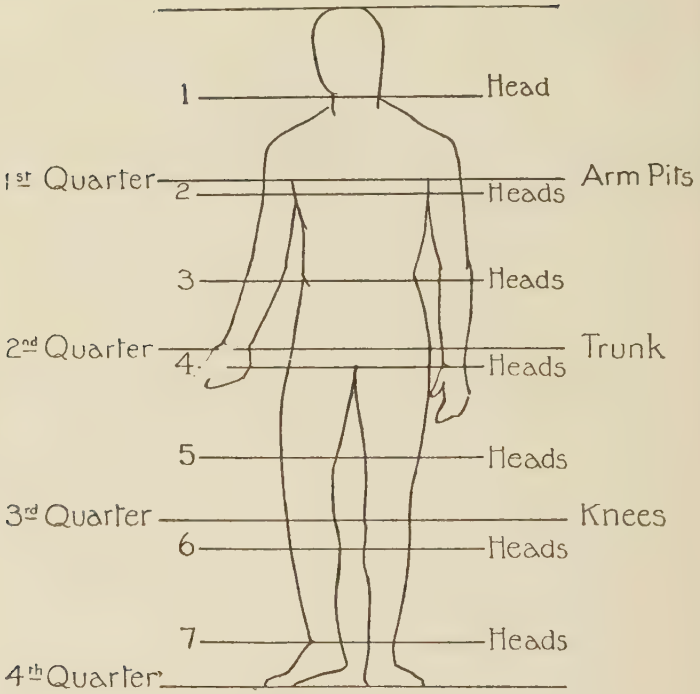
Normal clothing for boys and men is divided as follows:

a. Children, 2–8 years.
b. Junior, 8–16 years.
c. Student, 16–20 years.
d. Young men, 20–40 years.
e. Men.

Styles for Men. Styles of men's clothing in western countries change a little from season to season, but not as much as women's clothing. In eastern countries where tradition is very strong, the styles are fairly constant.

Men's styles are dominated from London, which has for centuries developed systematically a style center for men's clothing. The London tailor has been trained to be a master craftsman of men's wear. The male nobility, particularly the Prince of Wales, sets the style for men's clothing.

A person may be a conservative or an extremist in his dress. To illustrate: A successful business man or woman will wear



MODEL FORM

1st Quarter — from the top of the head to the armpits.
2nd Quarter — from the armpits to the bottom of the trunk.
3rd Quarter — from the trunk to the knees.
4th Quarter — from the knees to the soles of the feet.
The standard proportion of a well-shaped man is about seven and a half heads.

Memorize these proportions.

Notice the proportions of the male form.

conservative clothing, while the extremist in dress, like an artist or actor, will wear dashing and forceful colors. " Dashing and forceful " men have the ability to wear striking designs and colors.

Men's Wearing Apparel. Since the French and American revolutions, the wearing apparel of men in most of the large cities has tended to become constant.

The principal clothing of the male is:

a. Protective covering for cold and inclement weather — overcoats, raincoats, etc.

b. Dress clothing — suitings, (coat, waistcoat, and trousers).

c. Underclothing — shirt with a detached or some other kind of collar and cuffs, hosiery, and union suit or shirt and drawers next the body.

d. The dress accessories are hats, gloves, cane, necktie, rubbers or overshoes, watch chain, and ring.

The protective covering was originally very heavy, but today there is a tendency to have a lighter but warm overcoat. The outside coat differs in style from year to year.

Overcoats. The principal outer protective garment is the overcoat. It varies in size, weight, and composition. Sometimes coats are made of fur — raccoon, bear skin, etc. As a rule, overcoatings are heavy woolen or worsted fabrics, having a rough, hairy appearance to give warmth. Whether thick or thin, coarse or fine, they should always be elastic fabrics; that is, as much so as well-fulled woolen goods can be. When hard or stiff they do not make a graceful garment. The special goods made for overcoats are nearly all soft goods.

Raglan. One of the principal styles is the raglan coat, which was invented for an English gentleman who lost his arm and had a coat made so as to slip over the stump into the sleeve. Therefore the coat sleeve was constructed freer over the shoulder than the set-in sleeve of the common coat.

The raglan coats are loose and swagger of line, with plenty of material. There are three models of raglan-shouldered coats: (1) a fly front coat, (2) a button-through raglan coat, with slash pockets and peaked lapels, and (3) one with patch pockets, notched lapel, and button-through effect.

The materials of the topcoat are mostly the popular Scotch and English tweeds with a few conservative twists and smooth cloths and the ever-popular camel's hair. There is an almost unlimited choice of design and color in the tweeds, the most popular being rich browns with glen overchecks, gray and white pebbled tweeds,

brown and tan pebbled, brown herringbone, gray and white herringbone, and gray glen checks.

Padding is placed in the shoulders in some styles of overcoats to overcome the drooping, while in the raglan coat sloping shoulders are emphasized by loose, baggy folds.

When choosing a raglan coat, be sure that the sleeves are long enough and that it hangs well over the shoulders and does not tend to hunch the sleeves up. These sleeves are so loose and baggy that they look bad if any of the wrist is seen showing at the cuff.

Another important point to consider with the raglan overcoat is the length. It should come below the knees at all times, and the extent should be regulated by the height of the wearer.

Raincoats. A form of light overcoat that is treated or manufactured with rubber and used for stormy weather. The treated fabrics are covered with a waterproofed compound.

Forty years ago, the only rubber clothing made and worn in this country was the plain, black, rubber-surface gingham or cambric garment. The first great change brought about in the manufacture of rubber clothing was the introduction of a waterproof cloth garment called "Mackintosh." It takes its name from Charles Mackintosh, of Manchester, England, who was the original inventor of the cloth. It is a double-texture fabric — cloth on both sides, with rubber between. When made up, the garments resemble fashionably-cut coats or cloaks, and are almost odorless. They are either light or heavy, according to the quality of the material used. Mackintosh cloth is prepared by spreading on the cotton or woolen fabric layer after layer of India-rubber paste. Double-texture goods are made by uniting the rubber surfaces of two pieces of the coated material. The cloth is then cut into the desired shape for coat or cloak and the seams united by joining the soft material before it cools. There are many other kinds of waterproof garments made.

Most of the raincoat fabrics today are those that are treated chemically to make them waterproof. While millions of yards of fabrics are sold every year as "waterproofed," there are few if any that are completely satisfactory. This is due to the fact that the waterproof fabric should resist the passage of water and of wind and at the same time allow for ventilation, that is, allow the passing

of air through the pores of the fabric. There are various methods of waterproofing. (1) Adding a mixture of a drying oil to the fabric, as rum and linseed oils. An objection, in addition to non-permeability to air, is that such fabrics are liable to crack. (2) The addition of aluminum soaps is the most satisfactory method.

Coats. The coat is a principal outer garment. Specifically, it is an outer garment worn by men, covering the upper part of the body. In the early Middle Ages it was identical with what is now called a tunic.

Coats of modern form, fitted to the body and having loose skirts, first appeared in the reign of Charles II (1660–1685). Since the beginning of the eighteenth century, the coat has been of three general fashions: (1) a broad-skirted coat, now called the Prince Albert, so named in honor of Queen Victoria's illustrious consort; (2) the cutaway coat; and (3) the sack coat, which has no skirt. About 1860, the long-used swallow-tail coat was discarded, and the Prince Albert took its place. This was too staid and uncomfortable a dress coat for young men, and tailors soon improved upon it. They made it shorter, whittled the sides away to a tapering skirt, cut it to fit, and made it of fancy-colored cloths as well as of the old broadcloth. This was the modern cutaway coat, and it has taken such a hold with the public that it is now the most popular article of dress in men's semi-formal clothing. There are many other styles, as the box cutaway, tuxedo, reefer, pea-jacket, skeleton coat, etc.

Jacket is a short coat or any garment for the body coming not lower than the hips, worn by either sex. Jackets for boys throughout the first half of the nineteenth century came only to the waist, whether buttoned up or left open in front, and a similar garment called a waist is still worn by men in certain trades or occupations. Short outer garments designed for protection from the weather and worn by men of rough occupations are called by this name: as, a monkey jacket, a cardigan jacket, pea-jacket, zouave jacket.

Reefer. A heavy garment for men; originally a close-fitting jacket or short coat made of strong, coarse cloth for use by sailors and fishermen, but copied for general use in flannel fabrics by the fashions of 1889–90. It is similar to a blazer, except that it is a heavier garment, being especially suitable for spring wear, while the blazer form is better adapted for summer weather.

Frock-coat. A coat for men, usually double-breasted, and with a full skirt — opposed to sack-coat, which has no skirt, and to the cutaway, which has a short and tapering skirt.

Leg Coverings. Leg coverings, the beginning of pants or trousers, were made to keep the legs warm. At first they were bandages or rolls of cloth wrapped around the legs. Later, they were made of one piece of cloth, shaped to the thighs and hips, and worn above the stockings, and were called *breeches.* Later, the breeches were made like tights and were often of various colors and tightness. Then the breeches and stockings were made all in one piece — full length and closely fitting the body — and were called *pantaloons.*

The pantaloons were made of various shapes and materials, from snug-fitting trousers worn by actors and artists (sometimes slashed over the instep) to various degrees of fullness. The loose or full pantaloons were worn by sailors and laborers, and the word *trousers* was originally applied to the loose pantaloons. Then the word pantaloons was shortened to pants. Today, trousers is applied in this country and England to the leg wearing apparel of men. Pants is also used by the trade for the same purpose, while the term breeches is applied to short trousers reaching just below the knee.

The name pantaloon was derived from Pantalone, a ridiculous character in Italian comedy and a buffoon in pantomime, who first wore " breeches " and " stockings " that were all of one piece. This character took his name from Pantaleone, the patron saint of Venice, and hence is a personal name very frequent among Italians, and sometimes applied by them to each other as a nickname. The fashion of wearing pantaloons came into general popularity with the French Revolution, when puffed breeches and tights, lace and gewgaws subsided and made way for the comparatively simple dress which characterized that period. Although pantaloons at this time came only to the middle of the calf of the leg, where they were met by half top-boots, they soon afterward extended in length to rest upon the foot.

Trousers are of two types — ordinary and dress. The ordinary trousers are made of the same material as the coat and waistcoat. Dress trousers are quite different. They are expected to show a crease and set in a straight-line effect, perhaps in formal dress more so than the coat, hence trouserings are more firmly woven than

suitings and are heavier. They invariably have a stripe. The ground shade of the better grades of these fabrics is generally composed of twist warp yarns, ranging from dark slate gray to light lavender gray. An endless variety of broad and narrow fine-line effects is produced by expert manipulation and combination of weave and silk decorations, giving the pleasing effect required for this class of goods. The filling is nearly always black; but sometimes a dark slate is used. The cheaper grades are generally made of wool and cotton mixtures and twists, down to all cotton, in imitation of the better grades.

Knickerbocker is a term applied to short trousers with plain or rough surface. It is also a term applied to the early Dutch settlers of New York, made famous by Washington Irving. Thus the loose knee-breeches represented as worn by the Dutch settlers are known as knickerbockers. It is a sport costume, worn above long, knitted stockings called golf stockings.

Suspenders. Three hundred years ago the methods of keeping the trousers in place were exceedingly vexatious. Strings were attached to the coat and similar ones to the tops of the breeches, and then tied together to unite the most important parts of the attire. The nobles and aristocrats wore ribbons in place of strings, and in the reign of Charles I of England a beau was almost a mass of silk ribbons. In the United States, up to 1848, men were in the habit of keeping their trousers in position by means of strings made of muslin or ticking (by the poor), and knitted *galluses* (by the well-to-do). In 1848, suspenders of rubber-webbing were first manufactured, since which time they have entirely superseded the strings and ribbons of our forefathers.

All men should wear suspenders. Trousers that hang from the waist and belts that peep from under the vest look loose. The only way to be certain of the correct hang of the trousers is to wear suspenders. A belt may be used with sports wear.

Suits. Today, for ordinary wear, the man's dress consists principally of coat, waistcoat, and trousers of the same material, called a suiting. Since there is more wear on the trousers than the coat and waistcoat, it is frequently the custom to include two pairs of trousers in a suit. Suits may be of different outlines, called "cuts," and with different trimmings.

Suits of the three-button, single-breasted jacket type were supreme, with minor interruptions, for some time before 1914. Then the war came. The outgrowth of this abnormal period was the " cake " suit. This outfit was exceedingly form-fitting and was easily identified by its three or four buttons closely bunched at the high waistline, its long skirts, and its ultra-peaked lapels. The trousers were tight around the legs.

A *suiting* is a woolen or worsted fabric weighing from 8 to 16 ounces per yard. Men's suitings are expected to hold the shape given to the fabric when made into garments. To do this, it is necessary for men's suiting to be composed of two-ply yarn with a fair amount of twist to give the desired stiffness. Among the principal classes are the following:

1. Tennis suitings, composed of all wool, or all worsted, white or cream ground, decorated with solid color, silk and weave stripe effects.

2. Piece-dyed worsted, such as a blue ground with white silk line, cable cord, and fancy weave stripe effects, or any other ground-shade color with its complementary decoration applied.

3. Mixture wool or mixture worsted yarns made into fabrics, decorations applied in color; cable, silk, and weave effects in stripes or overline color checks suitable for men's wear, or decorated suitable for woman's wear. The darker shades are for fall and the lighter shades for spring.

General weight of fabric for men's wear, 12 to 14 oz. per yd., 56 in.; general weight of fabric for ladies' wear, 8 to 12 oz. per yard, 54 in.

As a rule, when one speaks of a suiting, one expects to see a fancy effect, in the form of a fancy stripe, check, or colored mixture, in loud or quiet tones of decoration. Long naps in fancy effects are sometimes fashionable, and at other times the hard finish is popular. This class may be subdivided into: (1) light weight for spring or fall, (2) heavy weight for winter.

The light-weight class generally consists of cloths in lighter colors for spring, and cloths, usually of the undressed finish, from worsted or woolen stock for fall.

The heavy-weight class generally consists of heavily fulled goods, such as meltons, beavers, naps, etc., which give a heavier and

warmer coat for winter use; where an exceptionally heavy coat is required, double and treble cloths are occasionally employed.

Waistcoats. Usually the waistcoat is of the same material as the coat and trousers, but for formal wear the waistcoat is made of different material. The fabric used is called a *vesting*. Vestings are usually medium and heavy-weight cloths which present a series of heavy welts or figures evenly distributed over the surface, as piques and Bedford cords, with various types of similar weaves. Vestings are largely produced in plain white, but may also be printed. They are also often finished cream-white and mercerized. The typical pique vesting presents a surface of running lines or welts across the length of the cloth, with fine sunken lines between; the width of the welts varies from one-twentieth to one-fourth of an inch. The typical Bedford cord vesting presents an identical appearance except that the welts are longitudinal or warpwise. Other types of vestings, usually, have figured effects raised on the surface of the cloth, and may be variations or combinations of the pique and Bedford cord weaves or of some similar special weave.

Linings. Overcoatings and suitings usually have a fabric called lining added to the raw side of the cloth to give it shape and also to strengthen it. For lining men's garments the principal fabrics employed are Italian cloth, farmers' satin, serge, silesia, alpaca, and various kinds of light silks, venetians, and satins. A lining is expected to be able to resist friction and have an attractive luster.

Fabrics for Shirts. One of the principal undergarments worn by men is the outer shirt made of shirting. The word shirt means "short garment." It was originally called chemise, when the undergarments of both sexes were of similar shape and materials. The words shirt and skirt have a common origin. The name shirt is now given to a garment worn only by men and a similar garment worn by infants.

In the United States, the shirt ordinarily worn by men is of cotton. Formerly, linen was the popular material for the body of shirts as well as for the parts intended to be starched, but, since about 1840, cotton has usurped its place except in the case of white shirts, in the making of which linen continues to be used for the exposed portions. Within the past decade, the long-used white

shirt made with a cotton body and linen front has been largely displaced by the colored shirt, made both in the dress and negligee styles. Colored shirts first caught the popular fancy in 1892, since which time they have been very generally worn in the United States by men of all classes. One result of the popularity of this style of garment has been to increase greatly the number of shirting materials; whereas, in 1890 percale and cheviot represented the principal fabrics employed in the manufacture of the better grades of colored shirts, the number of different materials now used runs into scores.

At present cotton shirting is a light-weight, washable cotton cloth, woven almost exclusively in 32-inch width. When colored yarn is used it is stock or yarn dyed. The weave may be plain, or the fabric may be decorated by the use of special weaves in conjunction with the plain.

Types of Shirts. In shirt numbering, one-half inch in the length of the neckband constitutes a "size." With this is associated the length of the sleeve. Manufacturers of stock shirts make six different lengths of sleeves. Of stock shirts, there are five principal varieties, known respectively as working shirts, negligee shirts, dress shirts, full dress shirts, and sport shirts.

The *working shirt* is a variety designed especially for rough wear, made usually open in front and with collar attached. A large variety of stout washable cotton and woolen fabrics are utilized in the manufacture of this class of shirts, as cheviot, denim, percale, calico, sateen, osnaburg, moleskin, flannel, domet or outing cloth, etc.

The *negligee shirt* is a soft, unstarched, semi-dress variety, made usually open in front and either with or without collar and with soft cuffs. The materials employed for negligee shirts are of the most diverse character, many fabrics of a fanciful or ornamental weave being manufactured especially for the general use of this class of goods. One form of negligee shirt is called a shirt-waist. It is essentially a summer garment, and is designed to be worn only in extremely hot weather when the coat and vest become burdensome. Although fashioned in various styles, the more common form is made about 23 inches in length. It is cut with a yoke, and ornamented back and front with one or more box pleats. A draw-

string at the waistline provides for the proper adjustment at that point. Like many negligee shirts, the shirt-waist is finished with a pocket and attached cuffs, but without a collar. When of the latter style the suspenders are worn underneath, the garment being provided with openings for the suspender ends. As thus worn the waist assumes a blouse form and folds loosely over the waistband of the trousers.

Dress shirt is the name at present commonly applied to a laundered white or colored shirt, made with a set-in front, whether of the same material as the body or different from it. *Full dress* is the name given to white shirts of fine quality made with extra wide bosoms.

Collars and Cuffs refer to articles of attire for both men and women, composed usually of linen or muslin and stiffly starched. Collars in the modern sense were invented in England in 1789 to hide boils and pimples.

Originally, a collar was a peculiar badge worn around the neck by knights of different orders. It consisted of a gold chain, enameled, etc., to which was attached the badge of the order to which the knight belonged. It was worn at court chiefly on state occasions, which were called collar days. These bands were first worn during the sixteenth and seventeenth centuries, and have varied from the plain band, which was nothing more than the simplest of collars, to elaborately trimmed falling bands, which, ornamented with lace and needlework, fell far over the shoulders. They required a receptacle by themselves for storing away; hence was derived our present " band-box."

The modern type of detachable collars and cuffs, made in various shapes and styles and of divers materials, has been in common use since 1850. Qualities are indicated by the thickness or layers of the cloth, called the " ply," which ranges from 2-ply to 5-ply. Ladies' cuffs range in size from 7 to 9; boys', from 8 to 9; men's, from 9 to 12. Men's collars range in size from 14 to 20; boys', from 12 to $14\frac{1}{2}$; ladies', from 12 to 16. One " size " of both collars and cuffs is one-half inch in their length.

Collars can in the main be divided into two classes, namely, the soft or unstarched, and the stiff or starched. Soft or unstarched collars have only recently come into general use; they are made

in the form of a soft folded collar or military stock. Stiff collars are usually either folded, standing, or wing collars. When the industry first started, linen was the chief material, but cotton collars, starched and unstarched, most of which are for men, now constitute the great bulk of the trade. A number of different cotton cloths are used in the manufacture of collars and cuffs. In the stiff or starched article the cloths used are rarely other than plain woven fabrics which are woven in the grey and afterwards bleached. Those used in the interlinings, which give body to the collar and serve as a holder for the starch, are coarse, heavy sheetings. The inner surface of the collar, the portion which comes in contact with the neck of the wearer, is composed of medium-weight cloths, usually print cloths, while the exposed outer surface of the collar is composed of somewhat finer cloths, such as longcloths or nainsooks.

A well-dressed man should have a little length of shirt sleeve below the coat sleeve, and a corresponding height of collar above the coat collar. The coat should be smooth against the collar. Great care should be exercised in purchasing the right height of collar and length of shirt sleeve.

Neck Clothing. If a man has a full, short neck, he should wear his collars a quarter of a size too large. This avoids that tight, bulged look that is so ugly when the collar fits too closely. Rather long points on the double collar will also help in making the neck appear longer and slimmer. The opposite of these rules should be observed by the man whose neck is too long or too thin.

Necktie. Properly, a narrow band, generally of silk or satin, worn around the neck, and tied in a knot in front; by extension, any band, scarf, or tie worn around the neck or fastened in front of the collar.

Four-in-hand. A style of neckwear distinguished by being wider at one end than at the other, which when tied presents the appearance and form of a made-up scarf or tie. It is always cut on the bias.

Muffler. A muffler is a piece of apparel worn about the neck to prevent the overcoating from touching the collar. Originally it was a sort of kerchief or scarf worn by women to cover the lower part of the face, the neck, ears, etc., either for protection against the sun or wind or for partial concealment when in public. At

present the name is applied to an ornamental scarf of wool, silk, or fur worn by men in winter as a protection for the throat. The modern muffler is made in two general forms, either as a padded and quilted scarf from four to six inches in width (commonly known as the Harvard), or as a large-square kerchief. When of the latter form it is intended to be folded diagonally so that it may be made to encircle the neck conveniently.

Handkerchiefs. Handkerchiefs are made in a great variety of styles, from plain hemmed cotton and linen to fine silk and lace. Grades of light-weight cotton cloth from 20's to 42's, longcloth from 40's to 60's, ordinary print cloth up to the finest combed lawn, 60's to 110's or finer, are used for making handkerchiefs. These are of varied styles and sizes; women's handkerchiefs are made up to 15 inches square, whereas men's handkerchiefs are mainly 18 to 23 inches square. Mufflers may be considered large kerchiefs.

Gloves and Mittens. A mitten is a covering for the hand, with one sheath for the thumb and another for the other four fingers. A glove differs from a mitten by having a separate sheath for each finger.

Wool gloves are worn principally for warmth, but for sports wear are developed in attractive designs which change from season to season. Fleece-lined cotton gloves and possibly cheap grades of kid gloves offer some competition to the wool knit-glove industry. Wool, worsted, and merino yarns described in the discussion of wool hosiery, are used in the manufacture of gloves and mittens.

In the manufacture of gloves or mittens cut and sewed to shape, ordinary circular or flat machines are used for making the cloth, from which they are cut by dies. For the manufacture of gloves from a continuous yarn no automatic machinery is available.

A glove has three main parts, viz.: (1) the cuff or top, (2) the hand, (3) the fingers and thumb. Seamless gloves are produced quickly in large numbers by making the rib top and plain hand automatically on a circular rib machine of the superimposed cylinder type, but the fingering has to be effected one finger at a time on hand flat-knitting machines, and is a very slow process. Wrought gloves have all the parts made selvedged to shape on straight bar-bearded needle machines, the selvedged edges being finally seamed on a cup-seaming machine.

Cassock. A loose form of cloak or outer coat, particularly a military one, worn by men. Also a long clerical coat, buttoned over the breast and reaching to the feet and drawn in at the waist by a broad sash. In the Catholic church, its color varies with the dignity of the wearer: priests wear black; bishops, purple; cardinals, scarlet; and the pope, white. If lined with fur it is called a *pelisse.*

Hats. The principal hats worn by men are the silk hat, opera hat, derby, soft hat, and straw hats and sport caps. The silk hat is worn only on formal occasions. The opera hat is worn to the theater or opera. The derby is a fall, winter, and spring hat.

The cloth hat is one of the best kinds of headgear for travel and country wear. These hats are often made to correspond to the overcoat — incidentally they are preferably worn with an ulster. A hat of the cloth variety should have a curling brim that can be turned down if necessary. Due to its warmth, style, and practicability for travelling, a cloth hat is satisfactory to take the place of a light felt. But for warmer weather, a soft light-colored felt not only looks fresher and cooler, but is actually more comfortable than the stiff derby.

Size of Hats. In numbering hats one " size " represents one-eighth of an inch, and implies that difference in the average diameter of the head. The size of any hat can be obtained by measuring its length and width, adding them together, and dividing by 2. In either case the mean or average diameter is obtained. In fine silk hats the half size, or one-sixteenth, is often used, since many heads measure between two regular sizes. To obtain the size of hat a person should wear, measure accurately around the head — on the line where a hat or cap is usually worn — and divide by 3.14, which will give the diameter. This number, expressed as a whole or a mixed number, with the fraction in eighths, represents the size.

Hood. (From Anglo-saxon *hod,* head; whence comes also our word *hat.*) Properly a covering for the head, of soft or flexible material, but sometimes worn as an ornament for the back of cloaks and wraps. It is among the most ancient of head coverings. Hoods are also worn with academic gowns, the different colors representing the different grades of scholastic attainment in colleges.

Cowl. A hood attached to a gown or robe and admitting of being drawn over the head or of being worn hanging on the shoulders; worn chiefly by monks, and characteristic of their dress or profession.

Types of Clothing. Men's clothing is adapted to the occasion and is named accordingly: (1) dress or formal wear; (2) semi-dress or semi-formal wear; (3) informal; (4) business attire; (5) sport attire, etc.

Dress or formal wear applies to clothing worn at an evening function and requires full-dress suit. The semi-dress or semi-formal wear is worn at a club, and the costume is tuxedo. Informal clothing means a dark coat and striped trousers or a business suit.

Dress clothes are either tuxedos or full-dress, and full-dress clothes are preferable, more suitable, more becoming to the men themselves, and form a more decorative background for the flowerlike frocks of the women. Tuxedos look too much like everyday clothes to give the effect of formality and elegance.

Dress Coat is a coat worn by men on occasions of ceremony; especially, a black coat cut to fit snugly, and having the skirts cut away over the hips; sometimes humorously called a "swallow-tail" coat. Formerly the dress coat was invariably fashioned of broadcloth, but within recent years other materials have been used, such as fine worsteds and narrow-wale diagonals.

Formal and Semi-formal Dress. The following is a brief list of formal and semi-formal occasions and the attire they call for.

Theater — Informal: One of those "please don't dress" occasions, a dark business suit, stiff collar preferable, but soft allowable if customary to the wearer.

Theater — Semi-formal: Dinner coat with white or black vest, black bow tie, black patent leather shoes or oxford pumps, and stiff bosomed shirt with wing collar.

Theater, announced as formal, preceded by formal dinner party: Full dress, silk hat, etc.

Stag Parties — Formal: Dinner coat *ad lib.*

Semi-formal afternoon affairs, teas, receptions, etc. — Striped trousers, sack coat, stiff-bosomed shirt, wing collar, and bow tie; or most conservative dark suit, stiff-bosomed shirt, wing collar, and bow tie.

Formal afternoon affairs, terminating before 6 o'clock — this includes weddings — Striped trousers, cutaway coat, stiff shirt, wing collar, gray and black mixture tie, spats, and high hat.

Formal evening weddings and strictly formal dances — Full dress only.

A dinner coat is never worn before 6 P.M.

Business Clothes. It was once considered that " dark clothes " were the best for business wear. But that day has passed.

There are three distinct styles or cuts that a man can wear to business: (1) the sack suit of single-breasted cut, (2) that of the double-breasted cut, and (3) the morning coat. The morning or cut-away coat has certain value in the practice of law where it gives one greater dignity and is more in keeping with an appearance before a staid, gowned jurist.

The business man is always a more or less conservative dresser in his business hours. On the golf links, he may be most gaudily dressed, but at work he garbs himself tastefully and quietly.

Effect of Line and Proportion. The rules of color, line, and proportion described in Chapter III apply equally well to men's clothing. To illustrate:

a. A tall man should wear a coat slightly longer in proportion than the one worn by the average size or short man, in order to give an after-image of shortness.

b. The more leg-lines that show on a tall man the longer the after-image. Hence, tall men should cover much of the leg with the coat.

c. Broad-shouldered coats give an after-image of breadth and are therefore desirable for tall men.

d. A hat which looks well on a tall, large man will not look well on a small, short man, even if the men wear the same head size. The former takes a hat with a generous brim and not too high a crown. The higher the crown the more height will be added to the man who is already as tall as he wants to be. The short, small-

built man, on the other hand, would look out of proportion in a broad-brimmed hat.

e. Except when he has to, as with evening dress, the man with a squarely-shaped head and a thick-set neck should not wear a bow tie. If he does, the squareness and thickness are emphasized. The long line given by a four-in-hand tie is more becoming to this man. With evening dress, of course, he cannot wear a four-in-hand, but in this case, with every one else wearing bow ties, the effect of the tie is not so conspicuous.

f. Some men have never worn a "swallow-tail" coat and the chances are that they never will. On the other hand, there are some men who are so fond of wearing the tail coat, and who find it so much more becoming than the short jacket, that they like to wear it for not only extremely formal affairs, such as weddings, balls, the opera and the like, but use it for the more informal evening functions, at which the ordinary man wears his dinner coat. But he makes one concession to informality, to distinguish between his use of the tail coat as a full-dress outfit and as a semi-formal dress. When it is used as a substitute for the dinner jacket, he wears instead of the usual and prescribed white waistcoat, of pique or linen, a black vest, either of the same material as the coat or of black silk to match the facing. If one wishes to have both a tail coat and a dinner coat, the same pair of trousers may be used with both.

g. If a short man wears a dark coat and vest with light-colored trousers, he will look shorter than usual. The light and dark half way up cuts his figure in half and tends to shorten it. If he wears white flannel trousers he can wear a dark blue coat, provided he wears a light vest or no vest at all and leaves the coat unbuttoned This gives him a light line all the way up and down, and the eye is unchecked. *Vice versa*, the tall, thin man should avail himself of this illusion by taking to the white flannels with the dark blue vest and coat.

h. A man should dress in proportion to his size and stature. Fashion or style must be subject to personality. That is, just because there may be in a shop a shirt of finely-plaited material, or a tie of extremely small pattern, the unusually heavily-built man must sacrifice it, if he fancies it, and choose rather a shirt of wide plaits or stripes, or a tie of larger figure, so that the correct proportion is kept.

i. The heavily-built man, especially the tall, massive type, should avoid in his dress all small patterns and details, such as small lapels on jackets, narrow-brimmed hats, and the like. If he wears a striped shirt it should not be one with finely spaced stripes or tiny figures, but of a generously-spaced and heavily-striped effect. He is better off without a figured shirt. The heavily built man cannot wear some of the daintier patterns that a small man can wear and still not look at all effeminately dressed.

j. The large man can wear suits with a glen check or a striped pattern becomingly. The check is apt to make him stand out in all his size, but it is at least proportionate. The stripes will give greater height to the figure than the check.

k. Especially should the extremely solidly-built man avoid small bow ties, narrow, short-pointed collars, and small hats.

Style for Shorts. Short people should be very careful in selecting clothing. To illustrate: The man who is short for his size must, if he buys a ready-to-wear coat, have it shortened to a suitable length.

The suit coat, also, must be shortened in proportion to the figure. The trouble with a long coat for a short man is that it cuts off from the height by concealing his legs.

Then again, trousers for the short man should not be over full. They should taper from the knee to a cuff or bottom and be narrower than those which a taller man can wear.

The short, stout man should avoid the straight-across vest, not for the same reason that he needs a short coat, but because it cuts his figure too abruptly in the middle. He should wear a pointed vest, but not one with too long points or one that is too long generally.

The short man will find that the most becoming clothes for him are the plainer effects in suitings, as any tendency toward a decided pattern will detract from his height. However, the combination of dark gray or black coat with striped trousers is one which is especially fortunate for the dresser who is not over tall and who wishes to present a neat and fashionable appearance. The striped trousers give height to the figure, and the dark tone of the whole outfit is one that is becoming to the short man.

Economical Wardrobe. The proper wardrobe for a man depends upon the life he leads, his working hours, the society in which

he mingles, and the type of clothes he will most often use. A man who expects to have leisure time may wish to concentrate more on informal than formal clothes. In the nineties, the gentleman had his everyday suit and his Sunday suit and his full-dress suit. Today he has a costume for practically every occasion, and he gives more thought to his dress.

Every man needs for summer a light-weight three-piece worsted suit, skeleton lined, and sometimes lacking sleeve lining, which weighs, minus trimming, about twenty-eight ounces.

Summer fabrics today are so made that they are as readily tailored and shape-retaining as the winter suitings. Makers offer a seven and a half to eight-ounce summer-weight worsted and mohair, and a combination of these fabrics woven so as to be non-crushable.

Mohair is the coolest material, not being a heat retainer as are suitings made from wool. Fine Australian yarn, smooth in texture and light in weight, is woven to permit a free circulation of air. This is known as porosity, a desirable thing.

In fall suitings heavy yarns are used and the weaving is close. The weight is twelve and a half to fourteen ounces to the running yard. The suit length is three and a half yards. The weight is around forty-nine ounces, without the lining and trimmings.

Hard (finished) twisted fabric suitings will stand the friction of the chair and desk better than soft-finished worsteds, such as cassimere (finished). The hard-twisted fabrics hold their shape better than soft-twisted fabrics, hence can be used for semi-formal wear as well as for the business office.

To the average figure the single-breasted is a more satisfactory waistcoat and only those who can carry off a double-breasted model smartly should indulge. There are some men who look well in that type of dress — men of adequate slenderness and something of a swagger. The double-breasted vest goes with the English type of dress. High-waisted trousers should accompany it.

It is quality and not quantity that counts, except in the case of suits, where, unless one is a wealthy man, he is better off with two cheap suits than one expensive one, because they afford a change and suits need a rest. By frequent changes, pressing, and repairs, one will get longer life out of two medium-priced garments than out of just one which is worn day after day.

Color. The rules governing the proper color for women apply equally well to men. Gray is a color that can be worn by any man except the sallow-complexioned. If it is very light it is not correct for town or business wear. The furnishings play a very important part, for they should provide the relieving touch by being of a bright or contrasting color.

Black and white can be worn by any man, but the furnishings must suit his personality and individual coloring. The man with blue or gray eyes can wear blue, red, and certain shades of green, whereas the man with brown eyes looks best in brown.

Blue, in any of its accepted shades, either plain or dusted, undoubtedly the most economical of all colors, can be worn by men of almost any complexion. The furnishings accompanying have naturally to be in keeping, hence the stiff collar and light-ground shirt are part of the ensemble.

Almost all men can wear brown, except those of pallid complexion and black hair. Brown is suitable for smart out-of-door wear, but is not quite correct in any of the big capitals or as a business suit. This is a color of which one does not tire quickly.

As far as colors go, the brighter colors are more becoming to gray hair than to any other. The gray hair is the neutral background against which any color looks well, whereas the men with blond hair, or black hair, or dark brown hair, will each find that there are some colors that are not as becoming to them as to men of different types.

QUESTIONS

1. Describe briefly the clothing worn by men prior to the thirteenth century.
2. What effect took place in men's clothing during the thirteenth century?
3. At what period of history did both men and women's clothing reach the acme of elaboration?
4. Describe the changes (artistic) in men's clothing during the fifteenth, sixteenth, seventeenth and eighteenth centuries.
5. What effect did the French Revolution have on men's clothing?

6. Describe the artistic effect of men's clothing during the Restoration period.

7. What has caused changes in the clothing of men during the (*a*) different periods of history and (*b*) different parts of the world?

8. What are the (psychological) effects of different kinds of clothing of men or people in general?

9. Why has the powdered wig and knee breeches remained the costume of the judges in England?

10. What are the artistic points of the male human form?

11. What are the different types of male physical development?

12. How can the defects be remedied by clothing devices?

13. What are the (*a*) masculine and (*b*) feminine tendencies in dress?

14. (*a*) Where is the style center for men's clothing? (*b*) What are the conservative and extremist in dress?

15. What are the types of wearing apparel? Describe briefly each type.

16. (*a*) What is the purpose of the overcoat? (*b*) What kind of fabrics are used in making overcoats?

17. (*a*) What is a raincoat? (*b*) How are they made?

18. (*a*) Give a brief history of the raglan coat. (*b*) What are its artistic features?

19. (*a*) What is a coat? (*b*) Why is it an important wearing apparel? (*c*) Name different kinds of coats.

20. (*a*) Give a brief description of the evolution of the trousers. Explain the difference between pants, pantaloons, breeches and trousers.

21. (*a*) What kind of fabrics are used for trousers? (*b*) What are the artistic or style values of trousers?

22. (*a*) What is a knickerbocker? (*b*) State the style value of it? (*c*) Compare with flannel trousers.

23. (*a*) Explain briefly the history of suspenders. (*b*) Compare the artistic effect of belt and suspenders.

24. (*a*) What is a suiting? (*b*) State the artistic value of a suiting and the fabric used in making a suiting.

25. Name the different styles of suitings.

26. (*a*) What is a lining? (*b*) What is the artistic value of a lining?

27. (*a*) What is a vesting? (*b*) State the kind of fabrics used in making a vesting.

28. (*a*) What is a shirting? (*b*) State briefly the history of shirts and the different kinds of materials used.

29. (*a*) What is a collar? (*b*) State the historical development of a collar. (*c*) What are the different kinds and the artistic value?

30. (*a*) What is a necktie? (*b*) State the development and artistic value of a necktie. (*c*) Why is it an important piece of wearing apparel?

31. (*a*) What is a muffler? (*b*) State the artistic purpose of a muffler.

32. Why is the handkerchief an important piece to a costume?

33. (*a*) Name the different head-coverings for men. State the artistic value of each. (*b*) How are hat sizes made?

34. (*a*) Name the different types of clothing according to occasion. (*b*) State the artistic value of each.

35. Give examples of formal, semi-formal and informal occasions and costumes that should be worn by men.

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